

SCREENING SITE INSPECTION REPORT  
FOR  
BLUE LAKE INC  
INDIANAPOLIS, INDIANA  
U.S. EPA ID: IND046107157  
SS ID: NONE  
TDD: F05-9009-007  
PAN: FIN0697SB

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EPA Region 5 Records Ctr.



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SEPTEMBER 24, 1991



**ecology and environment, inc.**

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## 1. INTRODUCTION

Ecology and Environment, Inc. (E & E), Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Blue Lake Inc (BL) site under contract number 68-01-7347. C.C. Johnson and Malhotra, P.C. (CCJM), a subcontractor to E & E under the above contract, was responsible for conducting this investigation.

The BL site was discovered by U.S. EPA on November 1, 1986, in response to Section 3001 of the Resource Conservation and Recovery Act (RCRA). The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Gary Mills of the Indiana Department of Environmental Management (IDEM) and is dated February 9, 1988 (U.S. EPA 1988).

FIT prepared a SSI work plan for the BL site under technical directive document (TDD) F05-9009-007, issued on September 5, 1990. The SSI work plan was approved by U.S. EPA on March 25, 1991. The SSI of the BL site was conducted on May 15, 1991, under amended TDD F05-9009-007, issued on May 17, 1991.

The FIT SSI included an interview with a site representative, a reconnaissance inspection of the site, and the collection of 10 soil, sludge, and sediment samples and 3 residential well samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act].... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S. EPA 1988a)

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

## 2. SITE BACKGROUND

### 2.1 INTRODUCTION

This section presents information obtained from SSI work plan preparation, the site representative interview, and the reconnaissance inspection of the site.

### 2.2 SITE DESCRIPTION

The BL site is an active solid waste landfill used for the disposal of foundry sand, building material debris, and wastewater sludge. The site area is approximately 86 acres (Hurt 1991) and is located on the southwest side of Indianapolis in Marion County, Indiana (E1/2NW1/4 sec.16, T.15N., R.3E.) (see Figure 2-1 for site location). A surface water body, Blue Lake, is located on the eastern part of the site. The site is located in a residential/industrial area. The site address is 3023 Morris Street, Indianapolis, Indiana (U.S. EPA 1988).

A 4-mile radius map of the BL site is provided in Appendix A.

### 2.3 SITE HISTORY

Ownership of the BL site before the 1950s is not known. During 1950s and 1960s, Blue Lake, Inc. (BLI), whose president is Jack D. Hurt, acquired the current site property as the result of a series of sequential parcel purchases (Hurt 1991). BLI purchased the parcels from various owners, including James Hurt (father of Jack Hurt) and the State of Indiana Industrial Development Department.



SOURCE: USGS Maywood, IN Quadrangle, 7.5 Minute Series, 1967, photorevised 1980; Indianapolis, IN Quadrangle, 7.5 Minute Series, 1967.

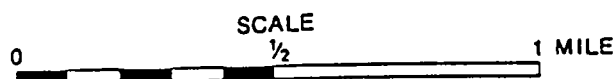


FIGURE 2-1 SITE LOCATION

Unknown parts of the site have been used as a solid waste landfill since 1927 and have been used to dispose of foundry sand and building demolition debris in gravel pits (Indiana State Board of Health (ISBH) 1985b; Indiana Environmental Management Board (IEMB) 1985). Before the 1950s and 1960s, another part of the site area was used for field tracks, a tavern, and gravel pits. Approximately 30 acres of the site were used as gravel pits, and later the pits were used as a landfill (Hurt 1991). In a 1952 City Directory of Indianapolis, the site area was noted as an amusement park (Cordell 1991). Blue Lake was used as a private fishing club from an unknown date to 1989 (Hurt 1991).

BLI started operating the landfill in the 1950s without obtaining state or local permits or licenses (Hurt 1991). According to Hurt, BLI filed a bond with the City of Indianapolis, Department of Public Works, to operate a solid waste landfill on the site in the 1950s. The bond was filed to operate a solid waste landfill in accordance with the rules and regulations of the City of Indianapolis (Hurt 1991). Later status of the bond is not known.

On July 3, 1973, Hurt filed an application to operate a solid waste landfill on the site for disposal of foundry sand and construction debris with the Division of Sanitary Engineering of ISBH. The application listed solid and noncombustible materials as the wastes to be disposed of (ISBH 1973). On August 22, 1973, ISBH granted permission to BLI for the operation of a solid waste landfill limited to the disposal of inorganic and noncombustible materials such as sand, bricks, concrete, and stone. Disposal of putrescible material, combustible material, or sludge was not permitted (Dove 1973).

Hurt's 1973 application stated that the landfill would be composed of three layers: a bottom layer, an intermediate layer, and a final cover. The bottom layer would consist of foundry sand, refuse, dirt, and gravel and would act as a base platform layer. The intermediate layer would extend from the top of the platform layer to within 5 feet of the final grade. This layer would be composed of nonputrescible wastes and demolition debris and would be compacted and covered with sand. A final cover would be placed over the wastes and would be a minimum of 5 feet thick. The final cover would consist of natural sand, foundry sand, dirt, and gravel. It was estimated that 785,000 cubic

yards of cover material were available on-site in July 1973 (ISBH 1973).

The BL site began receiving foundry sand and bag house dust from the Chrysler Corporation-Indianapolis Foundry in the 1950s (Hurt 1991). After constructing a wastewater treatment plant in 1967, Chrysler began generating approximately 500 tons per day of wastewater treatment sludge and deposited the sludge on the BL site from 1967 to 1984. The sludge contained RCRA-designated D006 (cadmium) and D008 (lead) hazardous waste constituents (ISBH 1985b). Wastes received from Chrysler were being deposited on the western part of the site. Before disposal, the wastewater sludge was mixed with other wastes to solidify the sludge (ISBH 1985). The waste received from other facilities was deposited on the northern and eastern banks of Blue Lake (Hurt 1991).

Kenneth Smock Associates, Inc. (Smock), of Indianapolis, had a contract for transporting waste from Chrysler to the BL site. Smock did not notify U.S. EPA that hazardous waste sludge was being transported to the BL site. Smock obtained neither waste transport manifests nor a U.S. EPA identification number as a transporter of hazardous waste (ISBH 1985). Currently, the Norris Trucking Company, of Indianapolis, has the contract for transporting demolition debris to the BL site (Hurt 1991).

The BL site has been inspected in the past by various regulatory agencies, including the U.S. EPA, ISBH, the Marion County Health and Hospital Corporation (MCHH), and the City of Indianapolis-Air Pollution Control Department (I-APCD). IDEM assumed control and regulation of waste disposal facilities within the state of Indiana from ISBH in 1985.

During the July 21, 1975, inspection, ISBH officials observed a truckload of garbage in the landfill, although the landfill was not permitted to accept putrescible waste (ISBH 1975). FIT file information contains no record of inspections that may have occurred between 1976 and 1981.

During ISBH inspections on March 9 and April 1, 1982, officials observed that calcium carbonate was accepted along with foundry sand from Chrysler. These materials were deposited on the southwest side of the site (ISBH 1982).

An ISBH inspection of the site on February 27, 1985, revealed that foundry sand and other waste seen during an inspection of Chrysler the

previous day were deposited on the BL site (ISBH 1985). On August 7, 1985, IEMB issued a Complaint, Notice of Hearing, and Proposed Final Order, Cause No. N-238, against several respondents involved in disposal activities on the BL site (IEMB 1985). Because of hearings regarding the complaints, the issuance of a final order was delayed (ISBH 1985a; IEMB 1987).

ISBH inspected the BL site on October 30, 1985, and collected three samples from unidentified waste materials on-site. The samples were analyzed by EMS Laboratories, Inc., of Indianapolis. Among the TAL analytes detected in the samples were cadmium (270 ug/g), lead (24,000 ug/g), nickel (110 ug/g), arsenic (75 ug/g), chromium (95 ug/g), mercury (0.3 ug/g), and silver (77 ug/g) (ISBH 1985b).

On November 13, 1986, IDEM informed U.S. EPA that the BL site had accepted hazardous waste sludge from 1967 to February 20, 1984, without notifying U.S. EPA and that BLI had never applied for a RCRA part A interim status permit for on-site hazardous waste disposal. IDEM requested that the BL site be added to the U.S. EPA list of land disposal facilities located in Indiana (Gray 1986). U.S. EPA added the BL site to the list on March 5, 1987 (Boyle 1987).

On May 13, 1987, I-APCD informed IDEM of an air pollution problem at the site. BLI was cited for a violation of fugitive dust regulations at the BL site. Additionally, there were reports of alleged respiratory health effects on residents of the I-70 Mobile Home Park located northwest of the BL site. Also, residents alleged that drums were illegally dumped at the BL site (I-APCD 1987). During a complaint investigation inspection on July 30, 1987, IDEM observed several empty barrels, which had been disposed of along with foundry sand from Chrysler (IDEM 1987).

On June 28, 1987, IEMB issued a Notice of Violation, Amended Complaint and Order, Cause No. N-238, based on the original complaint filed on August 7, 1985 (IEMB 1985, 1987). The notice was filed against the respondents BLI, Jack and Beverly Hurt of BLI, Chrysler, Smock, and Thomas M. Fansler, Jr., of Smock, regarding activities on the BL site (IEMB 1987).

The primary findings of this complaint included the following.

- o BLI and the Hurts constructed and operated a hazardous waste disposal facility without a permit.
- o The respondents did not comply with appropriate standards for generating, transporting, and disposing of hazardous wastes.
- o Chrysler offered hazardous wastes without the required manifests to a transporter and to a disposal facility that had not received a U.S. EPA identification number (IEMB 1987).

IEMB ordered that 1) BLI, Fansler, and Jack and Beverly Hurt should submit a RCRA part A application specifying the disposal of wastewater sludge within 30 days from the date of the order; 2) BLI should submit a closure plan with an appropriate timetable within 60 days; 3) BLI should implement the closure plan within 30 days of its approval; 4) a civil penalty of \$860,300 should be paid by the respondents within 30 days; and 5) Chrysler should assess site damage and take remedial actions at the site (IEMB 1987). As of March 23, 1990, the action was pending and Chrysler was appealing the order (IDEM 1990; Indiana Court of Appeals 1989).

The Oil Equipment Supply Corporation (OESC) and the Indianapolis Board of Flood Control (IBFC) were also originally listed as respondents in the 1985 complaint. According to Hurt, OESC has deposited their wastes (with unknown characteristics) at the BL site. During the 1960s, a storm water sewer operated by IBFC was blocked and storm water entered Blue Lake. Medical wastes were allegedly observed in the lake at this time, possibly from the sewer blockage (Hurt 1991). Finally, OESC and IBFC were dismissed without prejudice by IEMB based on the recommendation of a hearing officer on March 31, 1986 (Pickard 1986).

On February 16, 1988, IDEM officials inspected the BL site and found that foundry sand and cores continued to be disposed of on the site. A small amount of solid waste and trash bags were also observed on the site (IDEM 1988). On April 14, 1988, IDEM officials informed Hurt of the revised State of Indiana Solid Waste Rule, which was excepted to become effective in September 1988. Hurt was asked to submit a completed application along with waste characterization for a restricted waste site, and to do so at least 90 days before the new rule

became effective. IDEM indicated that landfilling must be halted on the date the rule became effective if this request was not followed (Poe 1988).

An analysis of the Chrysler wastes being disposed of on the BL site was submitted to BLI and IDEM on June 8, 1988, by Larry P. White of Chrysler. Among the substances detected in the waste stream samples were chloride (240 mg/l), cadmium (0.18 mg/l), lead (11 mg/l), cyanide (0.12 mg/l), fluoride (8.5 mg/l), nickel (2.3 mg/l), sodium (130 mg/l), zinc (0.36 mg/l), sulfate (570 mg/l), boron (0.45 mg/l), and phenols (0.19 mg/l) (White 1988).

On August 22, 1988, IDEM officials inspected the BL site and observed that some wastes were wet when received at the BL site. These wastes were allowed to dry in a dike area before being spread on the site (IDEM 1988a).

On December 10, 1988, Chrysler stopped sending foundry sand or other wastes to the BL site. Since 1988, the BL site has received only occasional loads of demolition debris, which is being disposed in the area north of Blue Lake (Hurt 1991).

On March 23, 1990, IDEM officials conducted a scheduled inspection of the BL site. They did not observe any new violations or any recent dumping. Action pertaining to the violation notice issued in 1987 was still pending (IDEM 1990). During an October 23, 1990, inspection of the BL site, MCHH officials collected surface water samples from Blue Lake. Among the substances detected were copper (13 ug/L), iron (515 ug/L), lead (138 ug/L), nickel (72 ug/L), and grease and oil (6.1 mg/L) (MCHH 1990). Until November 1990, residents in the house located on the south side of the BL site used the lake for fishing and swimming. Residents alleged that swimming in the lake caused a child to be born with birth defects. MCHH posted a sign stating that swimming and fishing in the lake were prohibited after November 1990 (Wooten 1990).

Hurt has filed a lawsuit against Chrysler for unauthorized use and illegal dumping of hazardous waste sludge at the BL site (Hurt 1991). The date or status of the lawsuit is not known.

According to FIT file information, no remedial response activities have been undertaken at the BL site.

### 3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

#### 3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the BL site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted in accordance with the U.S. EPA-approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the BL site is provided in Appendix B.

#### 3.2 SITE REPRESENTATIVE INTERVIEW

Parimal Mehta of FIT conducted a telephone interview with Jack D. Hurt, owner of the BL site, on July 5, 1991. The interview began at 11:00 a.m. The interview was conducted by telephone because Hurt resides in Florida. The interview was conducted to gather information that would aid FIT in preparing the SSI report.

#### 3.3 RECONNAISSANCE INSPECTION

FIT conducted a reconnaissance inspection of the BL site and surrounding area in accordance with E & E health and safety guidelines. The reconnaissance inspection began at 9:40 a.m. on May 15, 1991, and included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. FIT also determined sampling locations during the reconnaissance inspection. FIT was

accompanied by Vickie Cordell of IDEM during the reconnaissance inspection.

Reconnaissance Inspection Observations. Eagle Creek borders the site on the northeast, electric power transmission lines border the site on the east, Minnesota and Miller streets border the site on the south, Tibbs Avenue borders the site on the west, and Morris Street borders the site on the north (see Figure 3-1 for site features). The I-70 Mobile Home Park is located adjacent to the northwest side of the site. The I-70 Mobile Home Park is part of the property owned by BLI, but is not part of the BL site. Residential areas are located adjacent to the northwest and southwest sides of the site. Blue Lake is located on the east side of the site. The BL site is partially fenced on the west, north, and east sides. FIT entered the site from an entrance gate on the west side of the site on Tibbs Avenue.

Piles of foundry sand were observed on the west and northwest sides of Blue Lake. The elevation difference between the foundry sand piles and Blue Lake is approximately 20 feet. North of the piles of foundry sand is a ravine in which a pond of standing water was observed. Between the piles of foundry sand and Blue Lake, a sludge disposal area was observed. Cordell stated that Chrysler disposed of their wastewater treatment sludge in this area. A surface water runoff channel from the sludge disposal area to Blue Lake was visible.

The area southwest of Blue Lake is at an elevation of approximately 20 feet higher than the lake. Foundry sand and calcium carbonate from Chrysler were observed in this area. In the lower elevational area, near the west bank of the lake, a small depression filled with standing water was observed.

An area north of the lake was used to dispose of demolition debris. A sign stating that this area is a dump area was posted. Abandoned vehicles were observed on the east side of the dump area and along the north bank of Blue Lake.

Along the east bank of the lake, FIT observed heavy vegetation and many trees. FIT did not observe recent waste deposition on the east side of the BL site. A shallow dike was constructed in the southern part of the lake. The dike was constructed to divide the lake into two parts during the low water season and to prevent the contamination of

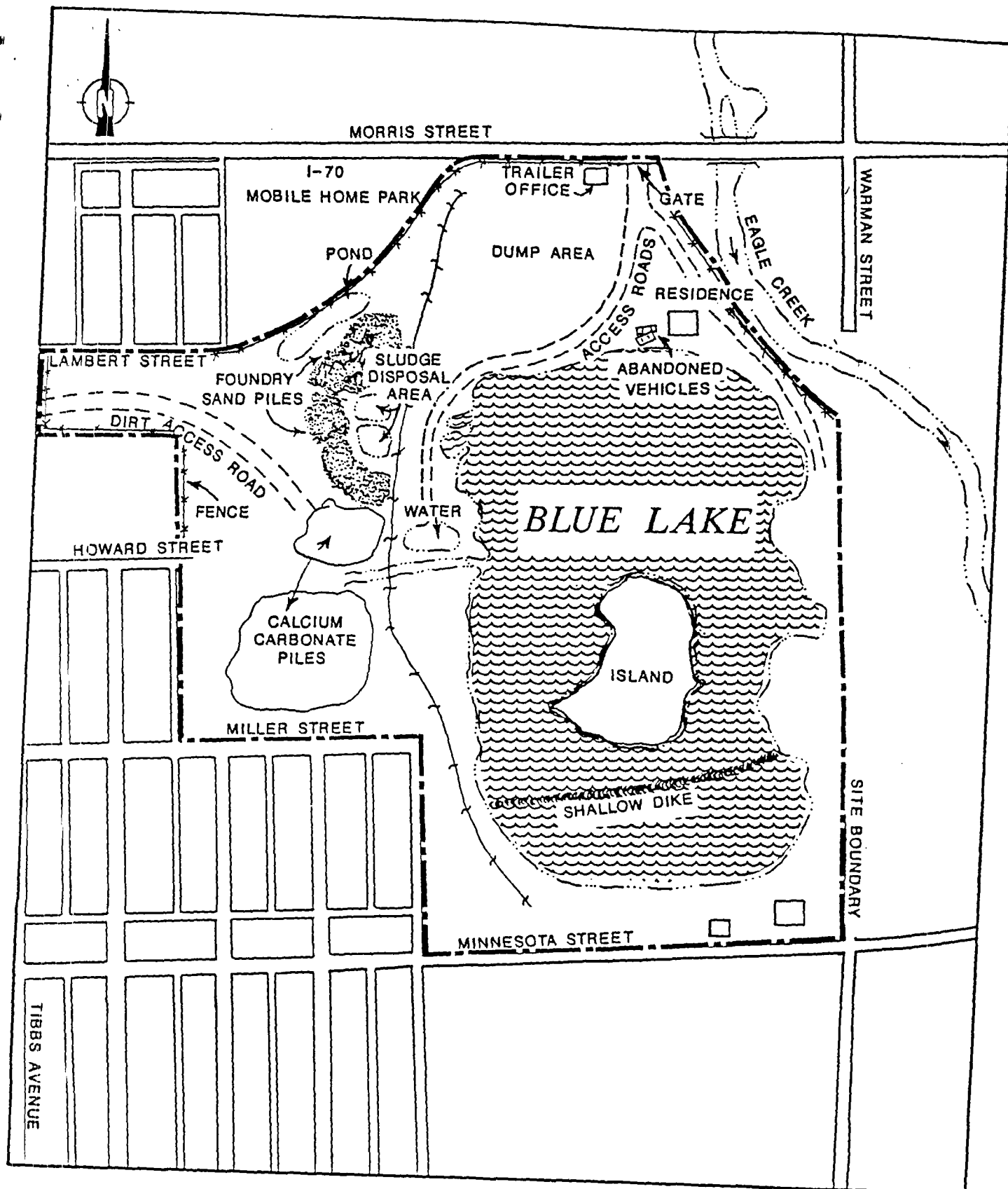


FIGURE 3-1 SITE FEATURES

the southern part of the lake. Surface water runoff from the east side of the site did not appear to flow toward Eagle Creek because the east side of the site is at a higher elevation and is heavily vegetated.

There are two houses on-site on the southern side of the lake. The site is not fenced on the southern side. Several empty rusted drums were observed at various locations on the BL site.

During the SSI, FIT observed a Norris Brothers Company truck, of the Norris Trucking Company, enter the site and dump demolition debris near the gate on the west side of the site.

FIT photographs from the SSI of the BL site are provided in Appendix C.

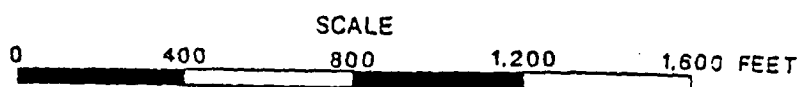
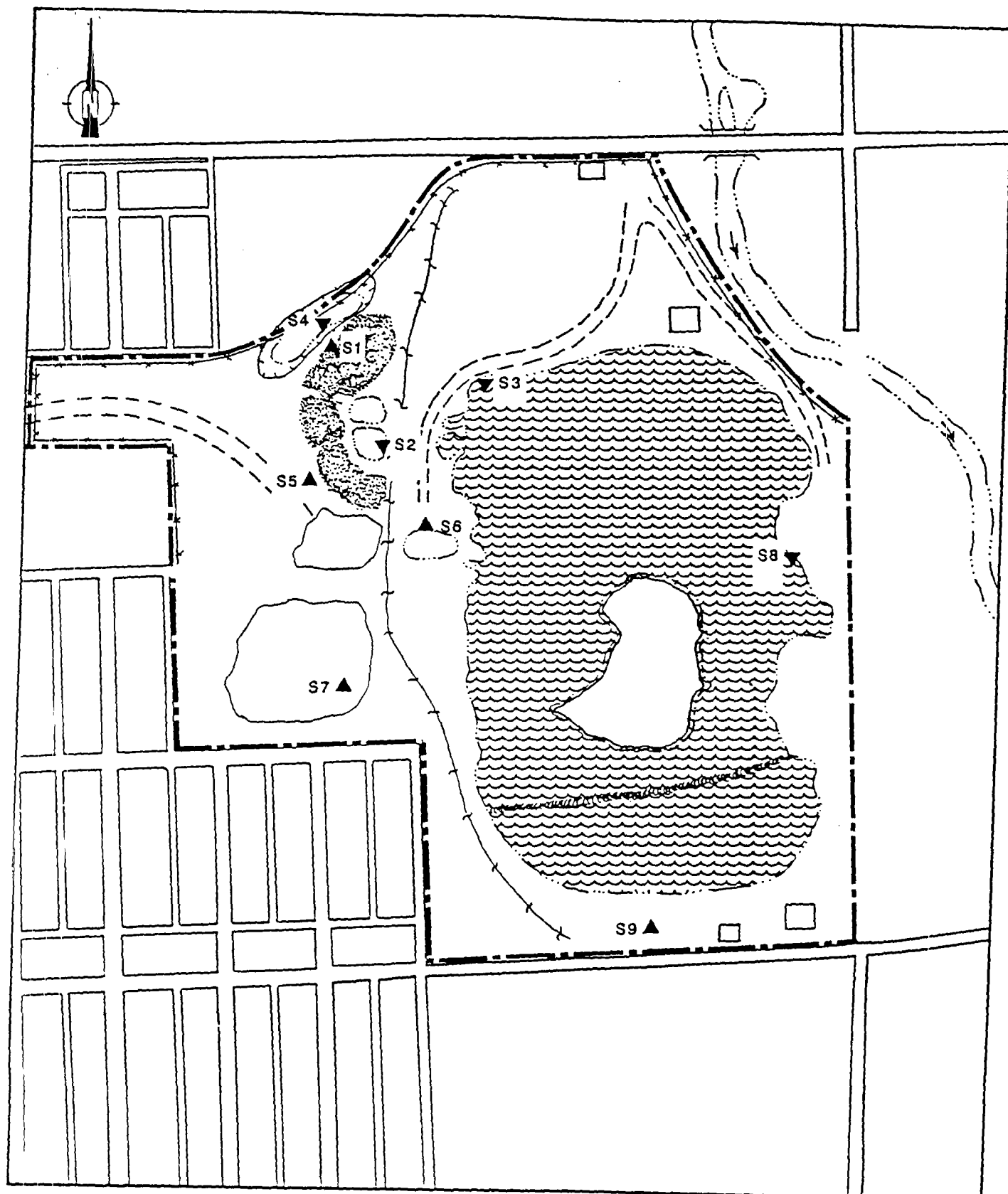
### 3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations selected during the reconnaissance inspection to determine whether U.S. EPA Target Compound List (TCL) compounds or Target Analyte List (TAL) analytes were present at the site. The TCL and TAL are included with corresponding quantitation/detection limits in Appendix D.

On May 15, 1991, FIT collected 10 soil, sludge, and sediment samples, including two potential background samples, and 3 residential well samples. An offer to provide the site representative with a portion of the soil, sludge, and sediment samples was accepted by an employee of Hurt's who controls access to the site and manages the I-70 Mobile Home Park.

Soil, Sludge, and Sediment Sampling Procedures. Surface soil samples S1 was collected from the piles of foundry sand and on the western side of Blue Lake (see Figure 3-2 for on-site soil, sludge, and sediment sampling locations). Sample S1 consisted of gray-black sand. Surface sludge sample S2 was collected from the sludge disposal area. Sample S2 consisted of black sludge.

Subsurface soil samples S5 was collected near the foundry sand piles and consisted of brown sandy silt. Subsurface soil sample S6 was collected from the lower area west of the lake and consisted of black silty sand. Subsurface soil sample S7 was collected from an area above the west side of the lake and consisted of gray sand.



LEGEND  
▲ SOIL, SLUDGE ▼ SEDIMENT

FIGURE 3-2 ON-SITE SOIL, SLUDGE, AND SEDIMENT SAMPLING LOCATIONS

Surface soil sample S1, surface sludge sample S2, and subsurface soil samples S5, S6, and S7 were collected to aid in characterizing the wastes present on the BL site.

Surface sediment sample S3 was collected from the northwestern bank of the lake and consisted of black sand. Surface sediment sample S4 was collected from the northwestern part of the site, in the ravine area near the pond of standing water, north of sampling location S1. Sample S4 consisted of black sand. Surface sediment sample S8 was collected from the east bank of the lake. Sample S8 consisted of brown sand.

Surface sediment samples S3, S4, and S8 were collected because they were located along surface water migration pathways to the existing on-site surface water bodies.

Surface soil sample S1, sludge sample S2, and sediment samples S3, S4, and S8 were collected at depth from 0 to 6 inches. Subsurface soil samples S5, S6, and S7 were collected at an approximate depth of 2 feet.

Two potential background soil samples, S9 and S10, were collected during the SSI of the BL site. Subsurface soil sample S9 was collected near one of the residences in the area south of the lake. Sample S9 was collected at an approximate depth of 2 feet. Sample S9 consisted of brown sandy silt. Surface soil sample S10 was collected from approximately 0.3 miles north of the site (see Figure 3-3 for off-site soil sampling location). Sample S10 was collected near a private residence and consisted of brown sandy loam. Sample S10 was collected at depth from 0 to 6 inches.

Samples S9 and S10 were collected to assess the representative chemical composition of the soil in the area of the site. Surface samples S1, S2, S3, S4, S8, and S10 were collected using a hand trowel and stainless steel spoon. Subsurface samples S5, S6, S7, and S9 were collected using a hand auger, shovel, hand trowel, and stainless steel spoon.

The sample portions collected for volatile organic analysis were transferred directly to sample bottles. The remaining sample portions were placed into a stainless steel bowl, mixed, and then transferred to the appropriate sample bottles, using a stainless steel spoon (E & E 1987).



SOURCE: USGS Maywood, IN Quadrangle, 7.5 Minute Series, 1967, photorevised 1980; Indianapolis, IN Quadrangle, 7.5 Minute Series, 1967.

FIGURE 3-3 OFF-SITE SOIL SAMPLING LOCATION

Standard E & E decontamination procedures were adhered to during the collection of all soil, sludge, and sediment samples. The procedures included the scrubbing of all equipment (e.g., hand trowels, shovels, hand augers, and stainless steel spoons) with a solution of detergent (Alconox) and distilled water, and triple-rinsing the equipment with distilled water before the collection of each sample (E & E 1987). All soil, sludge, and sediment samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, all soil, sludge, and sediment samples were analyzed using the U.S. EPA Contract Laboratory Program (CLP).

Residential Well Sampling Procedures. Three residential well samples were collected on May 15, 1991. Samples RW1, RW2, and RW3 were collected to determine whether TCL compounds and TAL analytes had migrated from the site to groundwater in the area of the site.

Residential well sample RW1 was collected from a residence on the southern part of the site. Based on the groundwater flow direction in the area of the BL site, samples RW2 and RW3 are considered to be potential upgradient well samples (Rivers 1991). Potential upgradient well samples RW2 and RW3 were collected from commercial facilities approximately 0.25 miles east of the site (see Figure 3-4 for residential well sampling locations and Table 3-1 for addresses and depths of FIT-sampled residential wells).

All residential well samples were obtained from outlets that bypassed water treatment systems and storage tanks. Water was allowed to discharge from the outlets for 15 minutes before samples were collected to ensure that the sample sources had been purged of standing water (E & E 1987). In accordance with U.S. EPA quality assurance/quality control (QA/QC) requirements, a duplicate residential well sample and a field blank sample were collected. The duplicate sample was collected from location RW1. The field blank sample was prepared from distilled water.

As directed by U.S. EPA, all residential well samples were analyzed using U.S. EPA CLP.

# Non-Responsive

Table 3-1

ADDRESSES AND DEPTHS OF FIT-SAMPLED RESIDENTIAL WELLS

| Sample              | Well Depth (feet) | Address   |
|---------------------|-------------------|---|
| RW1 (and Duplicate) | Unknown           | <b>Non-Responsive</b>                                 |
| RW2                 | 92                | 1300 S. Bedford Street<br>Indianapolis, Indiana 46221 |
| RW3                 | 94                | 1306 S. Bedford Street<br>Indianapolis, Indiana 46221 |

#### 4. ANALYTICAL RESULTS

This section presents the results of the chemical analysis of soil, sludge, sediment, and residential well samples collected by FIT during the SSI of the BL site. All samples were analyzed for volatile organics, semivolatile organics, pesticides/polychlorinated biphenyls (PCBs), metals, and cyanide. Complete chemical analysis results of FIT-collected soil, sludge, sediment, and residential well samples are provided in Tables 4-1 and 4-2. In addition, significant tentatively identified compounds (TICs) detected in the analysis of FIT-collected samples are provided in Table 4-1.

Quantitation/detection limits used in the analysis of FIT-collected samples are provided in Appendix D.

The analytical data from the chemical analysis of FIT-collected samples for this SSI have been reviewed under the direction of U.S. EPA for validity; the review has been approved by U.S. EPA. The analytical data have also been reviewed by FIT for usability. Any additions, deletions, or changes resulting from review of the data have been incorporated in the chemical analysis results tables presented in this section.

Table 4-1  
RESULTS OF CHEMICAL ANALYSIS OF  
FIT-COLLECTED SOIL, SLUDGE, AND SEDIMENT SAMPLES  
FOR THE BL SITE SSI

| Sample Collection Information<br>and Parameters | S1       | S2       | S3       | S4       | S5       | S6       | S7       | S8       | S9       | S10<br><del>EC</del> |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------|
| Date  | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91 | 05/15/91             |
| Time  | 1120     | 1135     | 1225     | 1250     | 1415     | 1230     | 1340     | 1425     | 1405     | 1745                 |
| QLP Organic Traffic Report Number               | EDK11    | EDK12    | EDK13    | EDK14    | EDK15    | EDK16    | EDK17    | EDK18    | EHZ34    | EHZ35                |
| QLP Inorganic Traffic Report Number             | MECT10   | MECT11   | MECT12   | MECT13   | MECT14   | MECT15   | MECT16   | MECT17   | MEH14    | MEH15                |
| <u>Compound Detected</u><br>(values in ug/kg)   |          |          |          |          |          |          |          |          |          |                      |
| <u>Volatile Organics</u>                        |          |          |          |          |          |          |          |          |          |                      |
| methylene chloride                              | 170      | —        | 80       | 77       | 65       | 55       | 36       | —        | —        | 29                   |
| acetone   | 180      | —        | 52       | 13       | 150      | 14       | 120      | 22       | —        | —                    |
| chloroform                                      | 4J       | —        | —        | 2J       | —        | —        | —        | —        | —        | —                    |
| 2-butanone (MEK)                                | —        | —        | 10J      | —        | —        | —        | —        | 5J       | —        | —                    |
| 1,1,1-trichloroethane                           | 13       | —        | 6J       | —        | —        | 3J       | —        | —        | —        | —                    |
| trichloroethene                                 | 5J       | —        | —        | —        | —        | —        | —        | —        | —        | —                    |
| benzene   | —        | 15       | —        | —        | —        | —        | —        | —        | —        | —                    |
| tetrachloroethene                               | 10       | —        | 3J       | 3J       | 3J       | 3J       | 3J       | —        | 2J       | 2J                   |
| toluene   | 5J       | 15       | —        | —        | 3J       | —        | 3J       | —        | —        | —                    |
| 1,1,2,2-tetrachloroethane                       | 7        | —        | —        | 3J       | 3J       | —        | —        | —        | —        | 2J                   |
| ethylbenzene                                    | 6        | —        | —        | —        | 2J       | —        | 2J       | —        | —        | —                    |
| styrene   | 4J       | —        | —        | —        | 3J       | —        | 2J       | —        | —        | —                    |
| xylene (total)                                  | 27x      | 11x      | —        | —        | 8x       | 6x       | 11x      | —        | —        | —                    |
| <u>Semivolatile Organics</u>                    |          |          |          |          |          |          |          |          |          |                      |
| phenol  | —        | 1,300    | —        | 120J     | 790      | —        | —        | —        | —        | —                    |
| 2-methylphenol                                  | —        | 8,900    | —        | —        | —        | —        | —        | —        | —        | —                    |
| 2,4-dimethylphenol                              | —        | 4,100    | —        | —        | —        | —        | —        | —        | —        | —                    |
| naphthalene                                     | 100J     | 5,100    | —        | —        | 28J      | 120J     | —        | —        | —        | —                    |
| 2-methylnaphthalene                             | 120J     | 7,500    | —        | 65J      | 110J     | 160J     | —        | —        | —        | —                    |
| acenaphthene                                    | —        | 140J     | —        | —        | —        | —        | —        | —        | 70J      | —                    |
| dibenzofuran                                    | —        | 610J     | —        | —        | —        | —        | —        | —        | —        | —                    |
| fluorene  | —        | 500J     | —        | —        | —        | —        | —        | —        | —        | —                    |
| phenanthrene                                    | 51J      | 2,000    | 270J     | 55J      | —        | 78J      | —        | —        | 130J     | 380                  |
| anthracene                                      | —        | 270J     | —        | —        | —        | —        | —        | —        | —        | 49J                  |
| di-n-butylphthalate                             | 160J     | 270J     | 180J     | 120J     | 94J      | 62J      | 57J      | 65J      | 37J      | 2,500                |
| fluoranthene                                    | —        | 1,400    | 570J     | 150J     | —        | 110J     | —        | 60J      | 290J     | 700                  |
| pyrene  | —        | 830      | 420J     | 110J     | 33J      | 72J      | —        | —        | 290J     | 570                  |
| butylbenzylphthalate                            | —        | —        | —        | —        | —        | —        | —        | —        | —        | 60J                  |
| benzo[a]anthracene                              | —        | 460J     | 250J     | 51J      | —        | 54J      | —        | —        | 150J     | 280J                 |

— Not detected.

Table 4-1 (Cont.)

| Sample Collection Information and Parameters            | S1       | S2       | S3       | S4      | S5       | S6      | S7        | S8       | S9       | S10      |
|---|----------|----------|----------|---------|----------|---------|-----------|----------|----------|----------|
| <u>Semi-volatile Organics, Cont.</u>                    |          |          |          |         |          |         |           |          |          |          |
| chrysene  | —        | 540J     | 270J     | 90J     | —        | —       | —         | —        | 170J     | 350J     |
| bis(2-ethylhexyl)phthalate                              | —        | 94J      | —        | —       | —        | —       | —         | —        | —        | 38J      |
| benzo[b]fluoranthene                                    | —        | 740      | 470J     | 220J    | —        | 100J    | —         | —        | —        | 580      |
| benzo[a]pyrene  | —        | 250J     | 210J     | —       | —        | —       | —         | —        | 160J     | 210J     |
| indeno[1,2,3-cd]pyrene                                  | —        | 150J     | 120J     | 79J     | —        | —       | —         | —        | 180J     | 180J     |
| dibenzo[a,h]anthracene                                  | —        | —        | —        | —       | —        | —       | —         | —        | 77J      | 38J      |
| benzo[g,h,i]perylene                                    | —        | —        | 120J     | 69J     | —        | —       | —         | —        | 210J     | 180J     |
| <u>TICs+</u>  |          |          |          |         |          |         |           |          |          |          |
| naphthalene, 1-methyl (8C19)<br>(90-12-0)               | —        | 1,400J   | —        | —       | —        | —       | —         | —        | —        | —        |
| naphthalene, dimethyl naphthalene isomers<br>(581-40-8) | —        | 2,500J   | —        | —       | —        | —       | —         | —        | —        | —        |
| naphthalene, dimethyl naphthalene isomers<br>(569-41-5) | —        | 3,200J   | —        | —       | —        | —       | —         | —        | —        | —        |
| naphthalene, dimethyl naphthalene isomers<br>(571-61-9) | —        | 1,800J   | —        | —       | —        | —       | —         | —        | —        | —        |
| naphthalene, dimethyl naphthalene isomers<br>(573-98-8) | —        | 1,900J   | —        | —       | —        | —       | —         | —        | —        | —        |
| tridecane (8C19C1)<br>(629-50-5)                        | —        | 1,100J   | —        | —       | —        | —       | —         | —        | —        | —        |
| pentadecane, 2, 6, 10, 14 - tetra<br>(1921-70-6)        | —        | 1,400J   | —        | —       | —        | —       | —         | —        | —        | —        |
| <u>Analyte Detected<br/>(values in mg/kg)</u>           |          |          |          |         |          |         |           |          |          |          |
| aluminum  | 4,660    | 9,700    | 17,300   | 1,360   | 18,000   | 2,100   | 45,200    | 18,000   | 5,640    | 4,090    |
| antimony  | —        | —        | —        | —       | —        | —       | —         | 8.38NJ   | —        | —        |
| arsenic   | —        | 6.2      | 2.8B     | —       | 2.2      | 1.8B    | —         | 0.688NJ  | 5.2s     | 4        |
| barium  | 230      | 210      | 298      | 22.9B   | 396      | 40.5B   | 937       | 291      | 34.7B    | 45.6     |
| beryllium   | 0.61B    | 1.5B     | 1.6B     | —       | 2.3      | —       | 3.7       | 1.6      | 0.3B     | 0.32B    |
| cadmium   | —        | —        | 2.2      | —       | 0.9B     | 0.47B   | 4.4       | 0.39B    | 0.56B    | 1.1      |
| calcium   | 10,700NJ | 13,200NJ | 48,400NJ | 2,480NJ | 49,800NJ | 8,100NJ | 126,000NJ | 64,000NJ | 83,000NJ | 25,900NJ |
| chromium  | 4.1      | 7.9      | 32       | 4.4     | 67.7     | 6.4     | 84.1      | 29.2     | 15.2     | 10.6     |
| cobalt  | —        | 2.7B     | 2.1B     | —       | 3.5B     | 1.3B    | —         | —        | 4.1B     | 4B       |
| copper  | 2.78NJ   | 8.88NJ   | 50.5NJ   | 19.7NJ  | 73.8NJ   | 22.3NJ  | 32.1NJ    | 15.5NJ   | 44.2NJ   | 90.2NJ   |
| iron  | 1,580    | 7,580    | 8,540    | 3,110   | 15,700   | 5,110   | 3,760     | 3,260    | 10,600   | 12,200   |
| lead  | 2.4      | 22.7     | 162NJ    | 19.9    | 129NJ    | 28.8    | 346NJ     | 21       | 77.3NJ   | 138NJ    |
| magnesium   | 1,160    | 3,340    | 3,610    | 540B    | 2,850    | 2,530   | 5,880     | 10,300   | 15,500   | 11,300   |
| manganese   | 141      | 230      | 1,420    | 79.1    | 1,140    | 124     | 4,240     | 1,730    | 390      | 379      |
| mercury   | —        | —        | 0.18     | —       | —        | 0.11    | —         | —        | —        | 0.53     |
| nickel  | 2.2B     | 10.4B    | 12.1B    | 6.5B    | 42.6     | 17      | 5B        | 5.6B     | 15.4     | 12.5     |

— Not detected.

+ TIC Chemical Abstracts Service (CAS) numbers, if available, are provided in parentheses.

Table 4-1 (Cont.)

| Sample Collection Information<br>and Parameters | S1   | S2    | S3   | S4    | S5    | S6    | S7    | S8    | S9   | S10  |
|---|------|-------|------|-------|-------|-------|-------|-------|------|------|
| <u>Analyte Detected (Cont.)</u>                 |      |       |      |       |       |       |       |       |      |      |
| potassium                                       | 148B | 351B  | 659B | 108B  | 367B  | 165B  | 1,370 | 611B  | 682B | 529B |
| selenium  | 0.6B | 0.79B | 1.6B | —     | 0.82B | —     | 2.2s  | 0.74B | —    | —    |
| silver  | —    | —     | —    | —     | —     | —     | 1.98U | 18U   | —    | —    |
| sodium  | 264B | 3,130 | 437B | 78.3B | 268B  | 81.3B | 890B  | 391B  | 175B | 111B |
| vanadium  | 2.1B | 24.6  | 7.9B | 1.5B  | —     | 4.6B  | 5.2B  | 3.9B  | 13.7 | 11.5 |
| zinc  | 6.5  | 47.1  | 349  | 42.2  | 189   | 80.5  | 761   | 60.2  | 84.2 | 182  |
| cyanide   | —    | 6.1   | 13.1 | —     | 13    | —     | 28.2  | 13.7  | —    | —    |

— Not detected.

## COMPOUND QUALIFIERS

## DEFINITION

## INTERPRETATION

J

Indicates an estimated value.

Compound value may be semiquantitative.

x

Manual quantitation was performed.

Compound may or may not be present.

## ANALYTE QUALIFIERS

## DEFINITION

## INTERPRETATION

S

Analysis by Method of Standard Additions.

Value is quantitative.

N

Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.

Value may be quantitative or semi-quantitative.

\*

Duplicate value outside QC protocols which indicates a possible matrix problem.

Value may be quantitative or semiquantitative.

B

Value is real, but is above instrument DL and below ORL.

Value may be quantitative or semiquantitative.

J

Value is above ORL and is an estimated value because of a QC protocol.

Value may be semiquantitative.

W

Post-digestion spike for furnace AA analysis is out of control limits (35 - 115%), while sample absorbance is &lt; 50% of spike absorbance.

Value may be semiquantitative.

Table 4-2  
RESULTS OF CHEMICAL ANALYSIS OF  
FIT-COLLECTED RESIDENTIAL WELL SAMPLES  
FOR THE BL SITE SSI

| Sample Collection Information<br>and Parameters | R#1      | Duplicate | R#2      | R#3      | Blank    |
|---|----------|-----------|----------|----------|----------|
| Date  | 05/15/91 | 05/15/91  | 05/15/91 | 05/15/91 | 05/15/91 |
| Time  | 1345     | 1345      | 1645     | 1725     | 1110     |
| CLP Organic Traffic Report Number               | EHZ36    | EHZ37     | EHZ39    | EHZ40    | EHZ38    |
| CLP Inorganic Traffic Report Number             | MEH116   | MEH117    | MEH119   | MEH120   | MEH118   |
| Temperature (°C)                                | 21       | 21        | 21       | 22       | 26       |
| Specific Conductivity (unhos)                   | 585      | 585       | 653      | 802      | 3.81     |
| pH  | 10.32    | 10.32     | 7.83     | 8.28     | 7.54     |

Compound Detected  
(values in ug/L)

Volatile Organics

|                          |       |       |   |   |      |
|--------------------------|-------|-------|---|---|------|
| trans-1,2-dichloroethene | —     | 0.1J  | — | — | —    |
| chloroform               | 62.5E | 60.8E | — | — | 0.6J |
| carbon tetrachloride     | 0.4J  | 0.4J  | — | — | —    |
| bromodichloromethane     | 17.9  | 17.6  | — | — | —    |
| dibromochloromethane     | 2.6   | 2.7   | — | — | —    |
| benzene                  | 0.1J  | —     | — | — | —    |
| toluene                  | —     | —     | — | — | 0.1J |
| ethylbenzene             | —     | —     | — | — | 0.1J |
| xylene (total)           | —     | —     | — | — | 0.2J |

Pesticides/POBs+

Analyte Detected  
(values in ug/L)

|           |        |         |         |         |         |
|-----------|--------|---------|---------|---------|---------|
| aluminum  | 240    | 211     | 98.68   | 90.1B   | —       |
| barium    | 81     | 79.9    | 182     | 272     | —       |
| cadmium   | 0.38sJ | 0.248sJ | 0.158sJ | 0.188sJ | 0.138sJ |
| calcium   | 82,800 | 81,100  | 97,300  | 111,000 | —       |
| copper    | 265    | 251     | —       | —       | —       |
| iron      | —      | —       | 1,710   | 6,280   | —       |
| magnesium | 30,400 | 29,900  | 29,200  | 33,500  | —       |
| manganese | —      | —       | 62.3    | 100     | —       |
| potassium | 2,580  | 2,550   | 2,690   | 3,580   | —       |
| selenium  | 2.6sJ  | 4sJ     | 2.9sJ   | 2.7sJ   | 2.3s    |
| sodium    | 33,100 | 32,100  | 45,100  | 55,000  | 136B    |
| zinc      | 12.1B  | —       | —       | 197     | —       |

— Not detected.

+ The pesticide/POB fractions of all residential well samples were qualified R (unusable) because of laboratory problems.

Table 4-2 (Cont.)

| COMPOUND QUALIFIERS | DEFINITION   | INTERPRETATION   |
|---------------------|--|--|
| J                   | Indicates an estimated value.  | Compound value may be semiquantitative.  |
| E                   | This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will <u>not</u> apply to pesticides/POBs analyzed by GC/EC methods. | Compound value may be semiquantitative.<br>There should be another analysis with a D qualifier, which is to be used. |
| R                   | Results are unusable due to a major violation of QC protocol.  | Compound value is not usable.  |
| ANALYTE QUALIFIERS  | DEFINITION   | INTERPRETATION   |
| S                   | Analysis by Method of Standard Additions.  | Value is quantitative.   |
| B                   | Value is real, but is above instrument DL and below ORDL.  | Value may be quantitative or semi-quantitative.  |
| J                   | Value is above ORDL and is an estimated value because of a QC protocol.  | Value may be semiquantitative.   |

## 5. DISCUSSION OF MIGRATION PATHWAYS

### 5.1 INTRODUCTION

This section presents discussions of data and information pertaining to potential migration pathways and targets of TCL compounds and TAL analytes that are possibly attributable to the BL site.

The five migration pathways of concern discussed are groundwater, surface water, air, fire and explosion, and direct contact.

### 5.2 GROUNDWATER

The TCL compounds and TAL analyte detected above levels detected in upgradient residential well samples RW2 and RW3 are chloroform (62.5E ug/L in sample RW1), bromodichloromethane (17.9 ug/l in sample RW1), and copper (265 ug/L in sample RW1)(see Table 4-2 for interpretations and definitions of qualifiers).

The TCL compounds acetone (180 ug/kg in sample S1), 2,4-dimethylphenol (4,100 ug/kg in sample S2), 2-methylnaphthalene (7,500 ug/kg in sample S2), 2-methylphenol (8,900 ug/kg in sample S2), and naphthalene (5,100 ug/kg in sample S2) were detected at concentrations above background levels in on-site soil and sludge samples. The TAL analytes cyanide (28.2 mg/kg in sample S7), lead (346NJ mg/kg in sample S7), chromium (84.1 mg/kg in sample S7), cadmium (4.4 mg/kg in sample S7), and beryllium (3.7 mg/kg in sample S7) were detected at concentrations above background levels in on-site soil and sludge samples (see Table 4-1 for definitions and interpretations of qualifiers).

The TCL compounds and TAL analytes detected in the groundwater samples are not attributable to the BL site because the same TCL compounds and TAL analytes were not detected in the groundwater samples and in the soil and sludge samples collected on-site. However, a potential does exist for TCL compounds and TAL analytes to migrate from on-site soil to groundwater based on the following information.

- o TCL compounds and TAL analytes were detected in the on-site soil, sludge, and sediment samples.
- o There are no leachate collection systems or engineered liners in the landfill area or the areas where wastewater sludge, foundry sand, and other debris were disposed of (ISBH 1973).
- o Wastewater sludge (containing cadmium and lead), foundry sand, and calcium carbonate have been deposited on-site (ISBH 1985b).
- o In the past, many TCL compounds and TAL analytes were detected in on-site samples (ISBH 1985b).
- o Sludge was disposed of in a liquid state.

The geology of the area of the BL site also effects the potential for TCL compounds and TAL analytes to migrate from the site to groundwater in the area. The site area is within an outwash valley train deposit formed by meltwater flow in a preglacial channel in Marion County (Indiana Department of Natural Resources [IDNR] 1963). Highly permeable quaternary deposits of sand, silt, and clay are underlain by outwash deposits of sand and gravel (U.S. Department of Agriculture [USDA] 1978). Devonian-age shale and limestone comprise the upper bedrock layers in this area and underlie the outwash deposits. The depth to bedrock is approximately 105 feet (see Appendix E for well logs of the area of the site).

Based on residential well logs of the area of the site, the site area topsoil consists of sand, silt, and clay and ranges in depth from 0 to 9 feet. The topsoil overlies a highly permeable unconsolidated outwash deposit of sand and gravel that ranges in thickness from 0 to 100 feet.

In the outwash deposits, an impermeable thin layer of clay is present. According to area well logs, the thickness of the clay layer ranges from 5 to 30 feet and depth ranges from 10 to 60 feet.

Depth to groundwater is approximately 20 feet (IDNR 1983). The aquifer of concern (AOC) is considered to be the outwash deposits of sand and gravel and the bedrock. The depth to the AOC is also 20 feet. Based on a groundwater investigation in the area, the direction of local groundwater flow is southeast toward Eagle Creek. Some on-site groundwater may flow toward Blue Lake, especially in areas directly around the lake (Rivers 1991).

Residential, industrial, and city of Indianapolis water supply wells are drilled into the outwash deposits. According to area well logs, private wells within 3 miles of the site are approximately 100 feet deep. The municipal wells of the Indianapolis Water Company and the City of Speedway Water Works are located more than 3 miles from the site (Burns 1991). Therefore, the population within a 3-mile radius of the site that is served by the Indianapolis Water Company and the City of Speedway Water Works is not a potential target of the migration of TCL compounds and TAL analytes from the site to groundwater.

The population within a 3-mile radius of the site potentially affected by the migration of TCL compounds and TAL analytes from the site to groundwater is approximately 5,678 persons. This population was calculated by counting the number of houses that are not served by the two municipal well systems within a 3-mile radius of the site on United States Geological Survey (USGS) topographic maps (USGS 1967, 1967a, 1967b, 1967c) and multiplying this number by a persons-per-household value of 2.51 for Marion County, Indiana (U.S. Bureau of the Census 1982).

### 5.3 SURFACE WATER

No surface water samples were collected during the SSI of the BL site. However, the TCL compounds acetone (52 ug/kg in sample S3) and the TAL analyte cyanide (13.7 mg/kg in sample S8) were detected at concentrations above background levels in the FIT-collected surface sediment samples. These samples were obtained from potential migration pathways to Blue Lake. In the past, cyanide has been detected in the

waste stream samples from Chrysler and in the on-site samples (ISBH 1985b; White 1988).

Blue Lake was used for swimming and fishing until 1989, although residents living on the southern side of the lake continued to fish and swim in the lake until 1990 (Hurt 1991; Wooten 1990). FIT observed a surface water runoff pathway from the sludge, foundry sand, and calcium carbonate disposal areas into the lake.

The topography of the site does not indicate surface water runoff from the site to Eagle Creek, which forms the northeastern border of the site. FIT observed a levee along the west side of Eagle Creek, preventing the migration of TCL compounds and TAL analytes from the site to the creek via surface water runoff.

Eagle Creek flows into the White River approximately 1.5 miles downstream from the site. There are no downstream water intakes within 3-miles of the site in Eagle Creek or the White River, but both are used for fishing and recreational purposes (Burns 1991).

#### 5.4 AIR

A release of TCL compounds or TAL analytes to the air was not documented during the SSI of the BL site. During the reconnaissance inspection, FIT site-entry instruments (flame ionization detector, explosimeter, and colorimetric monitoring tubes for detecting hydrogen cyanide) did not detect levels that deviated from background concentrations at the site. In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

A potential does exist for TCL compounds and TAL analytes to migrate from the site via windblown particulates, based on the following information.

- o Foundry sand has been dumped and left uncovered at the site.
- o The TCL compound acetone was detected in a sample collected from the foundry sand.
- o The BL site is sparsely vegetated, and wastes are not properly covered with final cover.

- o BLI was cited by I-APCD for violating fugitive dust regulations, and for allegedly causing detrimental respiratory health effects on 150 persons living in the I-70 Mobile Home Park (I-APCD 1987; Hurt 1991).

The population within a 4-mile radius of the site potentially affected by a release of TCL compounds and TAL analytes to the air is approximately 133,610 persons. This population was calculated by counting the number of houses within a 4-mile radius of the site on USGS topographic maps (USGS 1967, 1967a, 1967b, 1967c) and multiplying this number by persons-per-household value of 2.51 for Marion County, Indiana (U.S. Bureau of the Census 1982).

#### 5.5 FIRE AND EXPLOSION

According to federal, state, and local file information reviewed by FIT and an interview with Kenneth Huber, Deputy Fire Marshal, Indianapolis Fire Prevention Bureau, no documentation exists of an incident of fire or explosion at the site (Huber 1990). According to FIT observations and site-entry equipment readings, no potential for fire or explosion existed at the site at the time of the SSI.

#### 5.6 DIRECT CONTACT

According to federal, state, and local file information reviewed by FIT, observations made during the SSI, and the interview with the site representative, no incidents of direct contact with TCL compounds and TAL analytes at the BL site have been documented.

A potential does exist for persons living in the area to come into direct contact with TCL compounds and TAL analytes at the site because the site is only partially fenced and is not guarded. Persons living in this area also use Blue Lake for swimming and fishing purposes (Wooten 1990).

Gladys Troxel is the manager of the I-70 Mobile Home Park and controls access to the site for BLI. Troxel is the only person who works at the site.

The population within a 1-mile radius of the site potentially affected through direct contact with TCL compounds and TAL analytes at the site, is 6,672 persons. This population was calculated by counting the number of houses within a 1-mile radius of the site on USGS

topographic maps (USGS 1967, 1967a, 1967b, 1967c) and multiplying this number by a persons-per-household value of 2.51 for Marion County, Indiana (U.S. Bureau of the Census 1982).

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Huber, Kenneth, November 2, 1990, Deputy Fire Marshal, Indianapolis Fire Prevention Bureau, Indianapolis, Indiana, telephone conversation, contacted by Evelyn Mayes, CCJM.

Hurt, Jack D., July 5, 1991, President, Blue Lake, Inc., site representative telephone interview, conducted by Parimal Mehta, CCJM.

I-APCD, May 13, 1987, David R. Jordan, Administrator, I-APCD, letter, to David Lamm, Assistant Commissioner for Solid and Hazardous Waste Management, ISBH, Re: air pollution and violation of fugitive dust regulation at the BL site.

IDEM, July 30, 1987, complaint investigation inspection at the BL site, prepared by Jeff Blankenberger.

\_\_\_\_\_, February 16, 1988, Solid Waste Facility Inspection Report, prepared by Patrick Carroll.

\_\_\_\_\_, August 22, 1988a, Facility Inspection Report, prepared by Patrick Carroll.

\_\_\_\_\_, March 23, 1990, interoffice memorandum, Re: trip report for the scheduled inspection of the BL site, prepared by Tim Johnson.

IDNR, 1963, Surficial Geologic Map of Marion County, Indiana, prepared by W. Harrison, IDNR, Indianapolis, Indiana.

\_\_\_\_\_, 1983, Availability of Water from the Outwash Aquifer, Marion County, Indiana, prepared by Barry S. Smith, IDNR, Indianapolis, Indiana.

IEMB, August 7, 1985, Complaint, Notice of Hearing, and Proposed Final Order, Cause No. N-238, issued against Blue Lake, Inc., Chrysler Corporation-Indianapolis Foundry, Kenneth Smock Associates, Inc., Jack D. and Beverly Hurt, Thomas M. Fansler, Jr., OESC, and IBFC.

\_\_\_\_\_, June 28, 1987, Notice of Violation, Amended Complaint and Order, Cause No. N-238, issued against Blue Lake, Inc., Chrysler Corporation-Indianapolis Foundry, Kenneth Smock Associates, Inc., Jack D. and Beverly Hurt, and Thomas M. Fansler, Jr.

Indiana Court of Appeals, August 9, 1989, Appeal from the Marion Superior Court, appellant Chrysler Motors Corporation v. appellees Environmental Management Board, Indianapolis, Indiana.

ISBH, July 3, 1973, Application for License to Operate Disposal Facility for Blue Lake, Inc., submitted by Jack D. Hurt, President, Blue Lake, Inc., Indianapolis, Indiana.

\_\_\_\_\_, July 21, 1975, Solid Waste Facility Inspection Report, prepared by C. Merge.

\_\_\_\_\_, March 9, 1982, Refuse Facility Inspection Report, prepared by David M. Brown.

\_\_\_\_\_, February 27, 1985, inter-office memorandum, Re: inspection of the BL site, prepared by David J. Koepper and Tom O'Leary.

\_\_\_\_\_, July 31, 1985a, Thomas Russell, Chief, Enforcement Section, inter-office memorandum to Ralph C. Pickard, Technical Secretary, IEMB, Summary and Findings in Support of a Request Administrative Hearing Blue Lake, Inc., Indianapolis, Indiana.

\_\_\_\_\_, October 30, 1985b, analysis report for samples collected from the BL site, analyzed by EMS Laboratories, Inc., Indianapolis, Indiana.

MCHH, October 23, 1990, analysis of surface water samples collected from Blue Lake, Indianapolis, Indiana.

Pickard, Ralph, C., March 31, 1986, Technical Secretary, IEMB, letter, to OESC and IBFC, Re: Notice of Dismissal Without Prejudice of Oil Equipment Supply Corporation and Indiana Board of Flood Control, Cause No. N-238, Environmental Management Board v. Blue Lake, Inc.

Poe, C. Steven, April 14, 1988, Chief, Facility Inspection Section-South, Solid and Hazardous Waste Management, IDEM, letter, to Jack D. Hurt, Re: information about the revised State of Indiana Solid Waste Rule (329 IAC 2).

Rivers, Paul M., April 2, 1991, Director, Corporate Environmental Affairs, Reilly Industries, Inc., Indianapolis, Indiana, monitoring well water sample analysis data for Reilly Tar Industries, of Reilly Industries, Inc., and the area of the BL site.

U.S. Bureau of the Census, 1982, 1980 Census of Population Characteristics of the Population, General Population Characteristics, Indiana, Washington, D.C.

USDA, 1978, Soil Survey of Marion County, Indiana, Soil Conservation Service, Washington, D.C.

U.S. EPA, February 9, 1988, Potential Hazardous Waste Site Preliminary Assessment, for the Blue Lake, Inc., site, U.S. EPA ID: IND046107157, prepared by Gary Mills, Office of Solid and Hazardous Waste Management, IDEM, Indianapolis, Indiana.

\_\_\_\_\_, February 12, 1988a, Office of Solid Waste and Emergency Response, Pre-Remedial Strategy for Implementing SARA, Directive number 9345.2-01, Washington, D.C.

USGS, 1967, Bridgeport, Indiana Quadrangle, 7.5 Minute Series: 1:24,000.

\_\_\_\_\_, 1967a, Clermont, Indiana Quadrangle, 7.5 Minute Series: 1:24,000.

\_\_\_\_\_, 1967b, Indianapolis West, Indiana Quadrangle, 7.5 Minute  
Series: 1:24,000.

\_\_\_\_\_, 1967c, photorevised 1980, Maywood, Indiana Quadrangle, 7.5  
Minute Series: 1:24,000.

White, Larry P., June 8, 1988, Supervisor Facility Engineer, Chrysler  
Corporation, Indianapolis, Indiana, letter, to BLI and Re: analysis  
of waste stream samples.

Wooten, Julie, November 1990, MCHH, telephone conversation, contacted by  
Evelyn Mayes, CCJM.

APPENDIX A

SITE 4-MILE RADIUS MAP

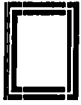
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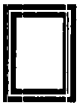
290540

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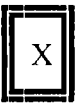
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APPENDIX A: 4 MILE RADIUS MAP



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APPENDIX B

U.S. EPA FORM 2070-13



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IND 046107157

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER  
BLUE LAKE INC 3023 W. MORRIS ST  
03 CITY 04 STATE 05 ZIP CODE 06 COUNTY 07 COUNTY CODE 08 CONG DIST  
INDIANAPOLIS IN 46241 MARION 97 02  
09 COORDINATES 10 TYPE OF OWNERSHIP (Check one)  
LATITUDE LONGITUDE  
36 12 30.2 N 39 42 20.2 W  
☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL  
☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 02 SITE STATUS 03 YEARS OF OPERATION  
05/15/91 ☒ ACTIVE ☐ INACTIVE 1927 Present UNKNOWN  
MONTH DAY YEAR BEGINNING YEAR ENDING YEAR  
04 AGENCY PERFORMING INSPECTION (Check all that apply)  
☐ A. EPA ☒ B. EPA CONTRACTOR C.C. JOHNSON & MALHOTRA ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR  
(Name of firm) (Name of firm)  
☐ E. STATE ☐ F. STATE CONTRACTOR ☐ G. OTHER  
(Name of firm) (Specify)

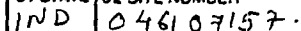
05 CHIEF INSPECTOR 06 TITLE 07 ORGANIZATION 08 TELEPHONE NO.  
TANVEER ANJUM CIVIL ENGINEER CCJM (312) 621-3944  
09 OTHER INSPECTORS 10 TITLE 11 ORGANIZATION 12 TELEPHONE NO.  
MIKE DUET ENVIRONMENTAL SCIENTIST CCJM (312) 621-3944  
CYNTHIA SCHULTZ ENVIRONMENTAL HEALTH SPECIALIST ECOLOGY & ENVIRONMENT (312) 663-9415  
PARIMAL MEHTA ENVIRONMENTAL ENGINEER CCJM (312) 621-3944  
SANTOSH SHARMA CIVIL ENGINEER CCJM (312) 621-3944  
( )

13 SITE REPRESENTATIVES INTERVIEWED 14 TITLE 15 ADDRESS 16 TELEPHONE NO.  
JACK D. HURT OWNER RR1 Box 122, MARATHON, FL (305) 249-1333  
( )  
( )  
( )  
( )  
( )  
( )

17 ACCESS GAINED BY (Check one) 18 TIME OF INSPECTION 19 WEATHER CONDITIONS  
☒ PERMISSION ☐ WARRANT 8:35 SUNNY ~ 75°F

IV. INFORMATION AVAILABLE FROM

01 CONTACT 02 OF (Agency/Organization) 03 TELEPHONE NO.  
HARRY E. ATKINSON IDEM (317) 231-8927  
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM 05 AGENCY 06 ORGANIZATION 07 TELEPHONE NO. 08 DATE  
PARIMAL MEHTA U.S. EPA C.C. JOHNSON & MALHOTRA (312) 621-3944 06/03/91  
MONTH DAY YEAR



## EPA FORM 2070-13 (7-81)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IND 046107157

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 5,678 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-2 IN NARRATIVE.

01 ☒ B. SURFACE WATER CONTAMINATION 0 02 ☒ OBSERVED (DATE: 5/15/91) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-3 IN NARRATIVE.

01 ☒ C. CONTAMINATION OF AIR 133,610 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-3 IN NARRATIVE.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 0 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-5 IN NARRATIVE

01 ☒ E. DIRECT CONTACT 6,672 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-6 IN NARRATIVE.

01 ☒ F. CONTAMINATION OF SOIL App. 86 02 ☒ OBSERVED (DATE: 5/15/91) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: (Acres) 04 NARRATIVE DESCRIPTION

SEE SECTIONS 4 & 5 IN NARRATIVE

01 ☒ G. DRINKING WATER CONTAMINATION 5,678 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-2 OF NARRATIVE.

01 ☒ H. WORKER EXPOSURE/INJURY 1 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5-6 IN NARRATIVE

01 ☒ I. POPULATION EXPOSURE/INJURY 133,610 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

SEE SECTION 5 IN NARRATIVE



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IND 046107157

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL ☐ ALLEGED

AN AREA OF NO VEGETATION WAS OBSERVED ON THE WESTERN SIDE OF BLUE LAKE. A POTENTIAL EXISTS FOR DAMAGE TO FLORA DUE TO TYPE OF WASTE DISPOSED OF ON-SITE.

01 ☒ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (Include name(s) of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL ☐ ALLEGED

DRAINAGE IS OBSERVED IN TO BLUE LAKE FROM LANDFILL. A POTENTIAL EXISTS FOR DAMAGE TO FAUNA DUE TO TYPE OF WASTE DISPOSED NEAR BLUE LAKE.

01 ☒ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL ☐ ALLEGED

TCL COMPOUNDS AND TAL ANALYTES WERE DETECTED IN SOIL, SLUDGE, AND SEDIMENT SAMPLES ON-SITE. BLUE LAKE WAS USED FOR FISHING AND SWIMMING. A POTENTIAL DOES EXIST FOR CONTAMINATION OF FOOD CHAIN.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES  
(Spills/Runoff/ Standing liquids/ Leaking drums)

02 ☒ OBSERVED (DATE: 5/15/91)

☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 133,610

04 NARRATIVE DESCRIPTION

SEE SECTION 2, 4 & 5 IN NARRATIVE.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL ☐ ALLEGED

NONE DOCUMENTED. AND NONE OBSERVED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL ☐ ALLEGED

NONE DOCUMENTED AND NONE OBSERVED.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☒ OBSERVED (DATE: 2/15/85)

☐ POTENTIAL ☐ ALLEGED

ILLEGAL SLUDGE DISPOSAL WAS DOCUMENTED AT THE SITE. NOTICE OF VIOLATION WAS ISSUED BY IDEM ON AUG. 7/85. - SEE SEC. 2-3 IN NARRATIVE

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

NONE

III. TOTAL POPULATION POTENTIALLY AFFECTED: 133,610

IV. COMMENTS

SEE SECTION 2, 3 and 5.

V. SOURCES OF INFORMATION (Cite specific references, e.g., State files, sample analysis reports)

U.S.G.S. TOPOGRAPHIC MAPS  
IDEM FILE INFORMATION

CCJM, FIT, SITE INSPECTION 5/15/91



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IND 046107157

II. PERMIT INFORMATION

| 01 TYPE OF PERMIT ISSUED<br>(Check all that apply)     | 02 PERMIT NUMBER | 03 DATE ISSUED | 04 EXPIRATION DATE | 05 COMMENTS                  |
|--|------------------|----------------|--------------------|------------------------------|
| <input type="checkbox"/> A. NPDES                      |                  |                |                    |                              |
| <input type="checkbox"/> B. UIC                        |                  |                |                    |                              |
| <input type="checkbox"/> C. AIR                        |                  |                |                    |                              |
| <input type="checkbox"/> D. RCRA                       |                  |                |                    |                              |
| <input type="checkbox"/> E. RCRA INTERIM STATUS        |                  |                |                    |                              |
| <input type="checkbox"/> F. SPCC PLAN                  |                  |                |                    |                              |
| <input checked="" type="checkbox"/> G. STATE (Specify) | UNKNOWN          | 4/22/73        | UNKNOWN            | SOLID WASTE LANDFILL PERMIT. |
| <input type="checkbox"/> H. LOCAL (Specify)            |                  |                |                    |                              |
| <input type="checkbox"/> I. OTHER (Specify)            |                  |                |                    |                              |
| <input type="checkbox"/> J. NONE                       |                  |                |                    |                              |

III. SITE DESCRIPTION

| 01 STORAGE/ DISPOSAL (Check all that apply)                | 02 AMOUNT | 03 UNIT OF MEASURE | 04 TREATMENT (Check all that apply)                  | 05 OTHER   |
|--|-----------|--------------------|--|--|
| <input type="checkbox"/> A. SURFACE IMPOUNDMENT            |           |                    | <input type="checkbox"/> A. INCINERATION             | <input checked="" type="checkbox"/> A. BUILDINGS ON SITE |
| <input type="checkbox"/> B. PILES                          |           |                    | <input type="checkbox"/> B. UNDERGROUND INJECTION    |  |
| <input checked="" type="checkbox"/> C. DRUMS, ABOVE GROUND | UNKNOWN   | UNKNOWN            | <input type="checkbox"/> C. CHEMICAL/PHYSICAL        | 3 residences   |
| <input type="checkbox"/> D. TANK, ABOVE GROUND             |           |                    | <input type="checkbox"/> D. BIOLOGICAL               |  |
| <input type="checkbox"/> E. TANK, BELOW GROUND             |           |                    | <input type="checkbox"/> E. WASTE OIL PROCESSING     | 06 AREA OF SITE  |
| <input checked="" type="checkbox"/> F. LANDFILL            | UNKNOWN   | UNKNOWN            | <input type="checkbox"/> F. SOLVENT RECOVERY         | App. 96  |
| <input type="checkbox"/> G. LANDFARM                       |           |                    | <input type="checkbox"/> G. OTHER RECYCLING/RECOVERY |  |
| <input checked="" type="checkbox"/> H. OPEN DUMP           | UNKNOWN   | UNKNOWN            | <input type="checkbox"/> H. OTHER NONE (Specify)     |  |
| <input type="checkbox"/> I. OTHER (Specify)                |           |                    |  |  |

07 COMMENTS

SEE SECTION 2-3 IN NARRATIVE.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)  
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

THE LANDFILL DOES NOT HAVE A LINER OR  
A LEACHATE COLLECTION SYSTEM.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

THE SITE AREA IS NOT ENTIRELY FENCED.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., EIS/IS (A/R), SAMPLING ANALYSIS, REPORTS)

C.C.J.M., FIT, SITE INSPECTION 5/15/91  
IDEM, FILE INFORMATION



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IN DO 46107157

II. DRINKING WATER SUPPLY

|   |  |  |                             |                             |  |                          |  |
|---|--|--|-----------------------------|-----------------------------|--|--------------------------|--|
| 01 TYPE OF DRINKING SUPPLY<br>(Check as applicable) |  |  | 02 STATUS                   |                             |  | 03 DISTANCE TO SITE      |  |
|   | SURFACE                                | WELL                                   | ENDANGERED                  | AFFECTED                    | MONITORED                              |                          |  |
| COMMUNITY   | A. <input checked="" type="checkbox"/> | B. <input checked="" type="checkbox"/> | A. <input type="checkbox"/> | B. <input type="checkbox"/> | C. <input checked="" type="checkbox"/> | A. <u>&gt; 3</u> (mi)    |  |
| NON-COMMUNITY                                       | C. <input type="checkbox"/>            | D. <input checked="" type="checkbox"/> | D. <input type="checkbox"/> | E. <input type="checkbox"/> | F. <input type="checkbox"/> UNKNOWN    | B. <u>&lt; 0.01</u> (mi) |  |

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING    ☒ B. DRINKING  
(Other sources available)  
COMMERCIAL, INDUSTRIAL, IRRIGATION  
(No other water sources available)

☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION  
(Limited other sources available)    ☐ D. NOT USED, UNUSEABLE

|   |  |  |   |   |  |
|---|--|--|---|---|--|
| 02 POPULATION SERVED BY GROUND WATER <u>5,678</u> |  | 03 DISTANCE TO NEAREST DRINKING WATER WELL <u>&lt; 0.01</u> (mi) |   |   |  |
| 04 DEPTH TO GROUNDWATER<br><u>20</u> (ft)         | 05 DIRECTION OF GROUNDWATER FLOW<br><u>SOUTHEAST - TOWARDS<br/>EAGLE CREEK</u> | 06 DEPTH TO AQUIFER<br>OF CONCERN<br><u>20</u> (ft)              | 07 POTENTIAL YIELD<br>OF AQUIFER<br><u>50-150</u> (gpd) | 08 SOLE SOURCE AQUIFER<br><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |  |

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

SEE SECTION 5-2 IN NARRATIVE

|  |   |   |  |
|--|---|---|--|
| 10 RECHARGE AREA<br><input checked="" type="checkbox"/> YES<br><input type="checkbox"/> NO | COMMENTS<br><u>MOST OF SITE AREA IS<br/>POTENTIALLY A RECHARGE AREA</u> | 11 DISCHARGE AREA<br><input checked="" type="checkbox"/> YES<br><input type="checkbox"/> NO | COMMENTS<br><u>BLUE LAKE IS PROBABLY<br/>A DISCHARGE AREA.</u> |
|--|---|---|--|

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION  
DRINKING WATER SOURCE    ☐ B. IRRIGATION, ECONOMICALLY  
IMPORTANT RESOURCES    ☐ C. COMMERCIAL, INDUSTRIAL    ☐ D. NOT CURRENTLY USED

|  |   |
|--|---|
| 02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER |   |
| NAME   | AFFECTED    DISTANCE TO SITE                            |
| <u>BLUE LAKE</u>                                 | <input checked="" type="checkbox"/> <u>ON-SITE</u> (mi) |
|  | <input type="checkbox"/> (mi)                           |
|  | <input type="checkbox"/> (mi)                           |

V. DEMOGRAPHIC AND PROPERTY INFORMATION

|   |   |   |                                   |
|---|---|---|-----------------------------------|
| 01 TOTAL POPULATION WITHIN                                |   |   | 02 DISTANCE TO NEAREST POPULATION |
| ONE (1) MILE OF SITE<br>A. <u>6,672</u><br>NO. OF PERSONS | TWO (2) MILES OF SITE<br>B. <u>32,282</u><br>NO. OF PERSONS | THREE (3) MILES OF SITE<br>C. <u>76,889</u><br>NO. OF PERSONS | <u>&lt; 0.01</u> (mi)             |

|  |   |
|--|---|
| 03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE<br><u>10,742</u> | 04 DISTANCE TO NEAREST OFF-SITE BUILDING<br><u>&lt; 0.01</u> (mi) |
|--|---|

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

SEE SECTION 3-3 IN NARRATIVE.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IN 046167157

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A.  $10^{-6} - 10^{-8}$  cm/sec ☐ B.  $10^{-4} - 10^{-6}$  cm/sec ☒ C.  $10^{-4} - 10^{-3}$  cm/sec ☐ D. GREATER THAN  $10^{-3}$  cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than  $10^{-6}$  cm/sec) ☐ B. RELATIVELY IMPERMEABLE ( $10^{-4} - 10^{-6}$  cm/sec) ☒ C. RELATIVELY PERMEABLE ( $10^{-2} - 10^{-4}$  cm/sec) ☐ D. VERY PERMEABLE (Greater than  $10^{-2}$  cm/sec)

03 DEPTH TO BEDROCK

APP. 70 to 100 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

UNKNOWN (ft)

05 SOIL pH

UNKNOWN

06 NET PRECIPITATION

+ 7 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.6 (in)

08 SLOPE

SITE SLOPE

10 - 15 %

DIRECTION OF SITE SLOPE

East

TERRAIN AVERAGE SLOPE

5 - 6 %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

N/A

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE  
N/A

A. (mi)

OTHER

B. > 3 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

> 3 (mi)

ENDANGERED SPECIES: UNKNOWN

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A. < 0.01 (mi)

RESIDENTIAL AREAS, NATIONAL/STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

B. < 0.01 (mi)

AGRICULTURAL LANDS  
PRIME AG LAND AG LAND

C. UNKNOWN (mi) D. > 4 MILES (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

SEE APPENDIX A.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

U.S.G.S. TOPOGRAPHIC MAP  
RAINFALL FREQUENCY MAP.  
SOIL SURVEY OF MARION COUNTY



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE IN 02 SITE NUMBER 046107157

II. SAMPLES TAKEN

| SAMPLE TYPE   | 01 NUMBER OF SAMPLES TAKEN | 02 SAMPLES SENT TO                                | 03 ESTIMATED DATE RESULTS AVAILABLE |
|---------------|----------------------------|---|-------------------------------------|
| GROUNDWATER   | 3                          | INORGANIC TO ETS ANALYTICAL SVCS<br>ORGANIC TO S3 | NOW AVAILABLE                       |
| SURFACE WATER | NA                         |   |                                     |
| WASTE         | NA                         |   |                                     |
| AIFI          | NA                         |   |                                     |
| RUNOFF        | NA                         |   |                                     |
| SPIII         | NA                         |   |                                     |
| SOIL          | 10                         | ORGANICS HALLET<br>INORGANICS TO BETZ LABS        | NOW AVAILABLE                       |
| VEGETATION    | NA                         |   |                                     |
| OTHER         | NA                         |   |                                     |

III. FIELD MEASUREMENTS TAKEN

| 01 TYPE            | 02 COMMENTS                         |
|--------------------|-------------------------------------|
| RADIATION MONITOR  | NO DEVIATION FROM BACKGROUND LEVELS |
| OXYGEN METER       |                                     |
| EXPLOSI METER      |                                     |
| OVA-128            |                                     |
| HEN DETECTION TUBE | NO COLOR CHANGE                     |

IV. PHOTOGRAPHS AND MAPS

|  |  |
|--|--|
| 01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL | 02 IN CUSTODY OF <u>ECOLOGY &amp; ENVIRONMENT, CHICAGO, IL.</u><br><small>(Name of organization or individual)</small> |
| 03 MAPS<br><input checked="" type="checkbox"/> YES<br><input type="checkbox"/> NO  | 04 LOCATION OF MAPS<br><u>ECOLOGY &amp; ENVIRONMENT INC., CHICAGO, IL.</u>   |

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

SEE TABLE 4-2 FOR PH, CONDUCTIVITY  
AND TEMPERATURE DATA OF GROUNDWATER SAMPLES.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., site files, sample analysis, reports)

CCJM, FIT SITE INSPECTION 5/15/91.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IN 0046107157

| II. CURRENT OWNER(S)   |  |                          |                      |   | PARENT COMPANY (If applicable)                              |               |          |             |  |
|--|--|--------------------------|----------------------|---|---|---------------|----------|-------------|--|
| 01 NAME<br>BLUE LAKE, INC.   |  | 02 D+B NUMBER<br>UNKNOWN |                      | 08 NAME                                   |   | 09 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>3023 W. MORRIS ST.                                  |  | 04 SIC CODE<br>UNK.      |                      | 10 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 11 SIC CODE   |          |             |  |
| 05 CITY<br>INDIANAPOLIS  |  | 06 STATE<br>IN           | 07 ZIP CODE<br>46241 |   | 12 CITY   |               | 13 STATE | 14 ZIP CODE |  |
| 01 NAME<br>JACK HURT 40 BLUE LAKE INC  |  | 02 D+B NUMBER            |                      | 08 NAME                                   |   | 09 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>RR 1 BOX 122  |  | 04 SIC CODE              |                      | 10 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 11 SIC CODE   |          |             |  |
| 05 CITY<br>MARATHON  |  | 06 STATE<br>FL           | 07 ZIP CODE<br>33050 |   | 12 CITY   |               | 13 STATE | 14 ZIP CODE |  |
| 01 NAME  |  | 02 D+B NUMBER            |                      | 08 NAME                                   |   | 09 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)  |  | 04 SIC CODE              |                      | 10 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 11 SIC CODE   |          |             |  |
| 05 CITY  |  | 06 STATE                 | 07 ZIP CODE          |   | 12 CITY   |               | 13 STATE | 14 ZIP CODE |  |
| 01 NAME  |  | 02 D+B NUMBER            |                      | 08 NAME                                   |   | 09 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)  |  | 04 SIC CODE              |                      | 10 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 11 SIC CODE   |          |             |  |
| 05 CITY  |  | 06 STATE                 | 07 ZIP CODE          |   | 12 CITY   |               | 13 STATE | 14 ZIP CODE |  |
| III. PREVIOUS OWNER(S) (List most recent first)  |  |                          |                      |   | IV. REALTY OWNER(S) (If applicable, list most recent first) |               |          |             |  |
| 01 NAME<br>INDIANA INDUSTRIAL DEVELOPMENT BOARD  |  | 02 D+B NUMBER<br>UNK.    |                      | 01 NAME                                   |   | 02 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>UNKNOWN   |  | 04 SIC CODE<br>UNK.      |                      | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 04 SIC CODE   |          |             |  |
| 05 CITY<br>INDIANAPOLIS  |  | 06 STATE<br>IN           | 07 ZIP CODE<br>UNK   |   | 05 CITY   |               | 06 STATE | 07 ZIP CODE |  |
| 01 NAME<br>MR. JAMES HURT  |  | 02 D+B NUMBER<br>UNK.    |                      | 01 NAME                                   |   | 02 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>UNKNOWN   |  | 04 SIC CODE<br>UNK       |                      | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 04 SIC CODE   |          |             |  |
| 05 CITY<br>INDIANAPOLIS  |  | 06 STATE<br>IN           | 07 ZIP CODE<br>UNK   |   | 05 CITY   |               | 06 STATE | 07 ZIP CODE |  |
| 01 NAME  |  | 02 D+B NUMBER            |                      | 01 NAME                                   |   | 02 D+B NUMBER |          |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)  |  | 04 SIC CODE              |                      | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |   | 04 SIC CODE   |          |             |  |
| 05 CITY  |  | 06 STATE                 | 07 ZIP CODE          |   | 05 CITY   |               | 06 STATE | 07 ZIP CODE |  |
| V. SOURCES OF INFORMATION (Cite specific references, e.g., State (PWS, Sample Analysis, 1990/91) |  |                          |                      |   |   |               |          |             |  |
| IDEM FILE INFORMATION  |  |                          |                      |   |   |               |          |             |  |
| CCJM, FIT SSI 5/15/91  |  |                          |                      |   |   |               |          |             |  |



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IN D046167157

I. CURRENT OPERATOR (Provide if different from owner)

OPERATOR'S PARENT COMPANY (if applicable)

|   |  |                  |             |   |  |               |             |
|---|--|------------------|-------------|---|--|---------------|-------------|
| 01 NAME                                   |  | 02 D+B NUMBER    |             | 10 NAME                                   |  | 11 D+B NUMBER |             |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 04 SIC CODE      |             | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 13 SIC CODE   |             |
| 05 CITY                                   |  | 06 STATE         | 07 ZIP CODE | 14 CITY                                   |  | 15 STATE      | 16 ZIP CODE |
| 08 YEARS OF OPERATION                     |  | 09 NAME OF OWNER |             |   |  |               |             |

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)

|   |  |                                     |             |   |  |               |             |
|---|--|-------------------------------------|-------------|---|--|---------------|-------------|
| 01 NAME                                   |  | 02 D+B NUMBER                       |             | 10 NAME                                   |  | 11 D+B NUMBER |             |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 04 SIC CODE                         |             | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 13 SIC CODE   |             |
| 05 CITY                                   |  | 06 STATE                            | 07 ZIP CODE | 14 CITY                                   |  | 15 STATE      | 16 ZIP CODE |
| 08 YEARS OF OPERATION                     |  | 09 NAME OF OWNER DURING THIS PERIOD |             |   |  |               |             |

|   |  |                                     |             |   |  |               |             |
|---|--|-------------------------------------|-------------|---|--|---------------|-------------|
| 01 NAME                                   |  | 02 D+B NUMBER                       |             | 10 NAME                                   |  | 11 D+B NUMBER |             |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 04 SIC CODE                         |             | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 13 SIC CODE   |             |
| 05 CITY                                   |  | 06 STATE                            | 07 ZIP CODE | 14 CITY                                   |  | 15 STATE      | 16 ZIP CODE |
| 08 YEARS OF OPERATION                     |  | 09 NAME OF OWNER DURING THIS PERIOD |             |   |  |               |             |

|   |  |                                     |             |   |  |               |             |
|---|--|-------------------------------------|-------------|---|--|---------------|-------------|
| 01 NAME                                   |  | 02 D+B NUMBER                       |             | 10 NAME                                   |  | 11 D+B NUMBER |             |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 04 SIC CODE                         |             | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) |  | 13 SIC CODE   |             |
| 05 CITY                                   |  | 06 STATE                            | 07 ZIP CODE | 14 CITY                                   |  | 15 STATE      | 16 ZIP CODE |
| 08 YEARS OF OPERATION                     |  | 09 NAME OF OWNER DURING THIS PERIOD |             |   |  |               |             |

IV. SOURCES OF INFORMATION (City specific references, e.g., state files, laboratory reports, etc.)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IND 046107157

II. ON-SITE GENERATOR

|   |               |             |  |
|---|---------------|-------------|--|
| 01 NAME<br>NONE                           | 02 D+B NUMBER |             |  |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE   |             |  |
| 05 CITY                                   | 06 STATE      | 07 ZIP CODE |  |

III. OFF-SITE GENERATOR(S)

|   |                       |   |               |
|---|-----------------------|---|---------------|
| 01 NAME<br>CHRYSLER CORPORATION, INDIANAPOLIS<br>FOUNDRY                  | 02 D+B NUMBER<br>UNK. | 01 NAME                                   | 02 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>1106 S. TIBBS AVE.           | 04 SIC CODE<br>UNK.   | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE   |
| 05 CITY<br>INDIANAPOLIS   | 06 STATE<br>IN        | 07 ZIP CODE<br>46241                      |               |
| 01 NAME<br>OIL EQUIPMENT SUPPLY CORPORATION                               | 02 D+B NUMBER<br>UNK. | 01 NAME                                   | 02 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>3901 W. 80 <sup>th</sup> ST. | 04 SIC CODE           | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE   |
| 05 CITY<br>INDIANAPOLIS   | 06 STATE<br>IN        | 07 ZIP CODE<br>46268                      |               |

IV. TRANSPORTER(S)

|  |                       |   |               |
|--|-----------------------|---|---------------|
| 01 NAME<br>KENNETH SMOCK ASSOCIATES, INC.                          | 02 D+B NUMBER<br>UNK. | 01 NAME                                   | 02 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)<br>2910 W. MINNESOTA ST. | 04 SIC CODE<br>UNK.   | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE   |
| 05 CITY<br>INDIANAPOLIS  | 06 STATE<br>IN        | 07 ZIP CODE<br>46241                      |               |
| 01 NAME  | 02 D+B NUMBER         | 01 NAME                                   | 02 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.)                          | 04 SIC CODE           | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE   |
| 05 CITY  | 06 STATE              | 07 ZIP CODE                               |               |

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IDEM FILE INFORMATION  
CCJM, FIT, SSI DE. 5/15/91.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IN 046107157

II. PAST RESPONSE ACTIVITIES

|   |         |           |
|---|---------|-----------|
| 01 <input type="checkbox"/> A. WATER SUPPLY CLOSED<br>04 DESCRIPTION                      | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED<br>04 DESCRIPTION          | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED<br>04 DESCRIPTION          | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED<br>04 DESCRIPTION                 | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED<br>04 DESCRIPTION                | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> F. WASTE REPACKAGED<br>04 DESCRIPTION                         | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE<br>04 DESCRIPTION                 | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> H. ON SITE BURIAL<br>04 DESCRIPTION                           | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT<br>04 DESCRIPTION               | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT<br>04 DESCRIPTION             | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT<br>04 DESCRIPTION               | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> L. ENCAPSULATION<br>04 DESCRIPTION                            | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT<br>04 DESCRIPTION                | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> N. CUTOFF WALLS<br>04 DESCRIPTION                             | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION<br>04 DESCRIPTION | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP<br>04 DESCRIPTION                     | 02 DATE | 03 AGENCY |
| NA  |         |           |
| 01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL<br>04 DESCRIPTION                   | 02 DATE | 03 AGENCY |
| NA  |         |           |



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER  
IN 046107157

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ W. GAS CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ X. FIRE CONTROL  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ Z. AREA EVACUATED  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☒ 1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE UNKNOWN

03 AGENCY MARION COUNTY HEALTH DEPT

POSTED SIGNS AT LAKE STATING "NO SWIMMING, NO FISHING, NO WADING" SEE SECTION 2-3

01 ☐ 2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE

03 AGENCY

NA

01 ☐ 3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE

03 AGENCY

SEE SECTION 2-3.

III. SOURCES OF INFORMATION (Cite specific references, e.g., State Dept. sample analysis reports)

IND. DEM, FILE INFORMATION  
CCJM, FIT SITE INSPECTION 05/15/91.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

|          |                |
|----------|----------------|
| 01 STATE | 02 SITE NUMBER |
| IND      | 046107157      |

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

SEE SECTION 2-3 OF NARRATIVE -

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IDEM FILE INFORMATION

APPENDIX C

FIT SITE PHOTOGRAPHS

SITE NAME:

BLUE LAKE INC

PAGE 1 OF 1

U.S. EPA ID: IND046107157 TDD: F05-9009-007

PAN: PIN06975B

DATE: 5/15/91

TIME: 11:20

DIRECTION OF  
PHOTOGRAPH:

North

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}F$ 

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

S1



DESCRIPTION: Close up view of sampling location S1

DATE: 05/15/91

TIME: 11:20

DIRECTION OF  
PHOTOGRAPH:

North east

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}F$ 

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

S1

DESCRIPTION: Perspective view of boundary sand piles, and sampling location S1

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: BLUE LAKE INCPAGE 3 OF 11U.S. EPA ID: IND046107157 TDD: F05-9009-007 PAN: FIN069758DATE: 5/15/91TIME: 11:35DIRECTION OF  
PHOTOGRAPH:South west

WEATHER

CONDITIONS:

SUNNY ~75° F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

S2DESCRIPTION: Sludge Impoundment - close up view of S2DATE: 05/15/91TIME: 11:35DIRECTION OF  
PHOTOGRAPH:South east

WEATHER

CONDITIONS:

SUNNY ~75° F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

S2DESCRIPTION: Perspective view of sampling location S2  
Back side lake is visible

SITE NAME: BLUE LAKE INCPAGE 3 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN0697SBDATE: 5/15/91TIME: 12:25DIRECTION OF  
PHOTOGRAPH:East

WEATHER

CONDITIONS:

SUNNY ~75°F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

53

DESCRIPTION:

Close up view of sampling location 53DATE: 05/15/91TIME: 12:25DIRECTION OF  
PHOTOGRAPH:North east

WEATHER

CONDITIONS:

SUNNY ~75°F

PHOTOGRAPHED BY:

TANVEER ANJUM

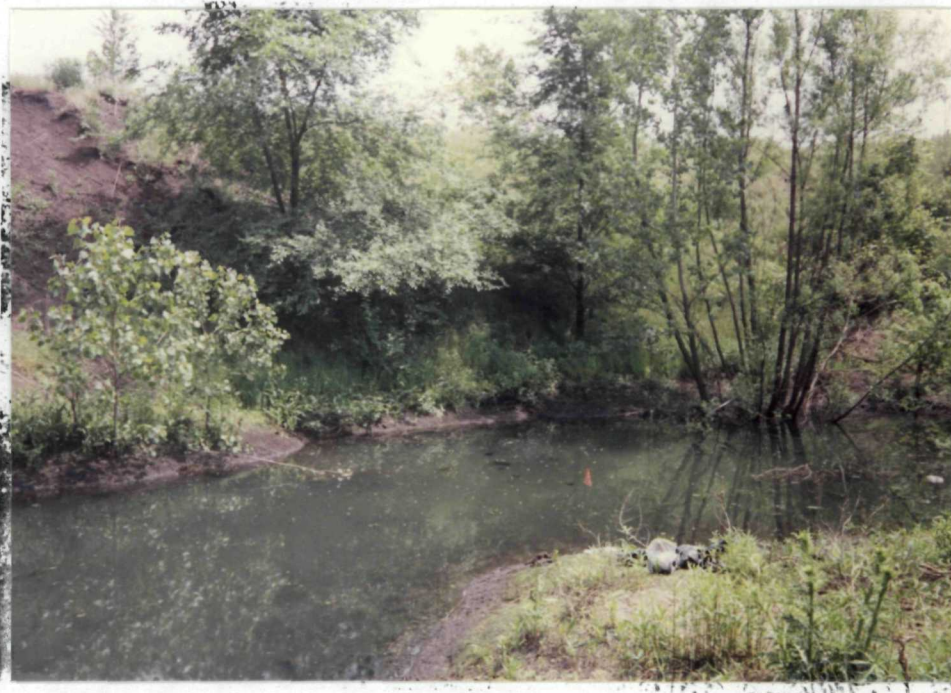
SAMPLE ID

(if applicable):

53

DESCRIPTION:

Perspective view of sampling location 53  
Northwest corner of lake is visible.

SITE NAME: BLUE LAKE INCPAGE 4 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN06975BDATE: 5/15/91TIME: 12:50DIRECTION OF  
PHOTOGRAPH:  
North westWEATHER  
CONDITIONS:  
SUNNY ≈ 75° FPHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
54DESCRIPTION: Close-up view of sampling location 54DATE: 05/15/91TIME: 12:50DIRECTION OF  
PHOTOGRAPH:  
North eastWEATHER  
CONDITIONS:  
SUNNY ≈ 75° FPHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
54DESCRIPTION: Perspective view of sampling location 54

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: BLUE LAKE INC.PAGE 5 OF 16U.S. EPA ID: IND 046107157 TDD: F09-9009-007PAN: F1N 0697SBDATE: 5/15/91TIME: 14:15DIRECTION OF  
PHOTOGRAPH:  
East.WEATHER  
CONDITIONS:  
Sunny ~ 75°FPHOTOGRAPHED BY:  
Tanveer AnjumSAMPLE ID  
(if applicable):  
SS

DESCRIPTION:

Close-up of SS

SITE NAME: BLUE LAKE INCPAGE 6 OF 11U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN069755DATE: 5/15/91TIME: 12:30DIRECTION OF  
PHOTOGRAPH:South west

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}F$ 

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

56

DESCRIPTION:

Close up view of sampling location 56DATE: 05/15/91TIME: 12:30DIRECTION OF  
PHOTOGRAPH:South west

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}F$ 

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

56

DESCRIPTION:

Perspective view of sampling location 56.

SITE NAME: BLUE LAKE INCPAGE 7 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007 PAN: FIN0697SBDATE: 5/15/91TIME: 14:40DIRECTION OF  
PHOTOGRAPH:West

WEATHER

CONDITIONS:

SUNNY ≈ 75° F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

57DESCRIPTION: Close up view of sampling location 57DATE: 05/15/91TIME: 14:40DIRECTION OF  
PHOTOGRAPH:North east.

WEATHER

CONDITIONS:

SUNNY ≈ 75° F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

DESCRIPTION: Perspective view of sampling location 57

SITE NAME: BLUE LAKE INCPAGE 6 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: PIN0697SBDATE: 5/15/91TIME: 14:25DIRECTION OF  
PHOTOGRAPH:  
WestWEATHER  
CONDITIONS:  
SUNNY ~75°FPHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
58DESCRIPTION: Close up view of sampling location 58DATE: 05/15/91TIME: 14:25DIRECTION OF  
PHOTOGRAPH:  
WestWEATHER  
CONDITIONS:  
SUNNY ~75°FPHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
58DESCRIPTION: Perspective view of sampling location 58  
at eastern bank of Blue Lake

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: BLUE LAKE INCPAGE 9 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIND0697SBDATE: 5/15/91TIME: 14:00DIRECTION OF  
PHOTOGRAPH:

WEATHER

CONDITIONS:

SUNNY ≈ 75° F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):  
S9DESCRIPTION: Close-up view of sampling location S9DATE: 05/15/91TIME: 14:00DIRECTION OF  
PHOTOGRAPH:West

WEATHER

CONDITIONS:

SUNNY ≈ 75° F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):  
S9DESCRIPTION: Perspective view of sampling location S9 at eastern bank of Blue lake.

SITE NAME:

BLUE LAKE INC

PAGE 10 OF 16

U.S. EPA ID: IND046107157 TDD: F05-9009-007

PAN: PIN069755

DATE: 5/15/91

TIME: 17:45

DIRECTION OF  
PHOTOGRAPH:

South

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}\text{F}$ 

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

S10

DESCRIPTION:

close-up view of sample location S10



DATE: 05/15/91

TIME: 17:45

DIRECTION OF  
PHOTOGRAPH:

South west.

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}\text{F}$ 

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

DESCRIPTION:

Perspective view of off site sample location S10



SITE NAME: BLUE LAKE INCPAGE 11 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN069758DATE: 5/15/91TIME: 15:50DIRECTION OF  
PHOTOGRAPH:  
SouthWEATHER  
CONDITIONS:  
SUNNY  $\approx 75^{\circ}F$ PHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
RW1DESCRIPTION: Close up view of sampling location RW1DATE: 05/15/91TIME: 15:50DIRECTION OF  
PHOTOGRAPH:  
EastWEATHER  
CONDITIONS:  
SUNNY  $\approx 75^{\circ}F$ PHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
RW1DESCRIPTION: Perspective view of sampling location RW1

SITE NAME: BLUE LAKE INCPAGE 12 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN0697SBDATE: 5/15/91TIME: 16:45DIRECTION OF  
PHOTOGRAPH:  
NorthWEATHER  
CONDITIONS:  
SUNNY ~75° FPHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
RW2DESCRIPTION: Sampling location RW2 - PerspectiveDATE: 05/15/91TIME: 17:25DIRECTION OF  
PHOTOGRAPH:WEATHER  
CONDITIONS:  
SUNNY ~75° FEastPHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
RW3DESCRIPTION: Sampling location RW3 - Close Up

SITE NAME: BLUE LAKE INCPAGE 13 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN0697SBDATE: 5/15/91TIME: 18:00DIRECTION OF  
PHOTOGRAPH:East

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}$  F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

N/A

DESCRIPTION:

on the day of SSI, near the western  
boundary, Building debris was disposed.DATE: 05/15/91TIME: 14:00

DIRECTION OF

PHOTOGRAPH:

North

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}$  F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

N/A

DESCRIPTION:

Dump area of building material debris

SITE NAME: BLUE LAKE INCPAGE 14 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN0697SBDATE: 5/15/91TIME: 17:55DIRECTION OF  
PHOTOGRAPH:East

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}$  F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

N/ADESCRIPTION: Gate on Tibbs Ave. - Western boundaryDATE: 05/15/91TIME: 16:10DIRECTION OF  
PHOTOGRAPH:South

WEATHER

CONDITIONS:

SUNNY  $\approx 75^{\circ}$  F

PHOTOGRAPHED BY:

TANVEER ANJUM

SAMPLE ID

(if applicable):

N/ADESCRIPTION: I-70 Mobile Home Park, Northern boundary ofBlue Lake Inc, - Gate is visible in left corner.

SITE NAME: BLUE LAKE INCPAGE 15 OF 16U.S. EPA ID: IND046107157 TDD: F05-9009-007PAN: FIN069755DATE: 5/15/91TIME: 16:25DIRECTION OF  
PHOTOGRAPH:  
North westWEATHER  
CONDITIONS:  
SUNNY  $\approx 75^{\circ}F$ PHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: Perspective view of fill area  
and lower elevational area on west bank of lake.DATE: 05/15/91TIME: 16:25DIRECTION OF  
PHOTOGRAPH:  
NorthWEATHER  
CONDITIONS:  
SUNNY  $\approx 75^{\circ}F$ PHOTOGRAPHED BY:  
TANVEER ANJUMSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: Perspective view of fill area, lower elevational  
western bank of lake and building material debris  
dump area.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: BLUE LAKE INC

PAGE 16 OF 16

U.S. EPA ID: IND 046107157

TDD: F05-9009-007

PAN: FIN 069758



DATE: 5/15/91 TIME: 18:30 DIRECTION OF PHOTOGRAPH: East PHOTOGRAPHED BY: Tanveed Anjum

WEATHER CONDITIONS: Sunny ~ 75° F SAMPLE ID (if applicable): N/A

DESCRIPTION: Western part of site - Fill area, Dirt road from Tibbs ave.

APPENDIX D

U.S. EPA TARGET COMPOUND LIST AND  
TARGET ANALYTE LIST  
QUANTITATION/DETECTION LIMITS

NOTE

FOR

DRINKING WATER ORGANIC ANALYSIS DATA

DETECTION LIMIT: MARCH 1990

DRINKING WATER INORGANIC ANALYSIS DATA

DETECTION LIMIT: APRIL 1988

SOIL ANALYSIS DATA

DETECTION LIMIT: JULY 1987

**ADDENDUM C**

**SPECIAL ANALYTICAL SERVICES  
DETECTION LIMITS**

**Drinking Water Samples**

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

| Volatiles                     | CAS Number | Quantitation Limits  |
|-------------------------------|------------|----------------------|
|                               |            | <u>Water</u><br>µg/L |
| 1. Chloromethane              | 74-87-3    | 1                    |
| 2. Bromomethane               | 74-83-9    | 1                    |
| 3. Vinyl Chloride             | 75-01-4    | 1                    |
| 4. Chloroethane               | 75-00-3    | 1                    |
| 5. Methylene Chloride         | 75-09-2    | 2                    |
| 6. Acetone                    | 67-64-1    | 5                    |
| 7. Carbon Disulfide           | 75-15-0    | 1                    |
| 8. 1,1-Dichloroethene         | 75-35-4    | 1                    |
| 9. 1,1-Dichloroethane         | 75-34-3    | 1                    |
| 10. cis-1,2-Dichloroethene    | 156-59-4   | 1                    |
| 11. trans-1,2-Dichloroethene  | 156-60-5   | 1                    |
| 12. Chloroform                | 67-66-3    | 1                    |
| 13. 1,2-Dichloroethane        | 107-06-2   | 1                    |
| 14. 2-Butanone                | 78-93-3    | 5                    |
| 15. Bromochloromethane        | 74-97-5    | 1                    |
| 16. 1,1,1-Trichloroethane     | 71-55-6    | 1                    |
| 17. Carbon Tetrachloride      | 56-23-5    | 1                    |
| 18. Bromodichloromethane      | 75-27-4    | 1                    |
| 19. 1,2-Dichloropropane       | 78-87-5    | 1                    |
| 20. cis-1,3-Dichloropropene   | 10061-01-5 | 1                    |
| 21. Trichloroethene           | 79-01-6    | 1                    |
| 22. Dibromochloromethane      | 124-48-1   | 1                    |
| 23. 1,1,2-Trichloroethane     | 79-00-5    | 1                    |
| 24. Benzene                   | 71-43-2    | 1                    |
| 25. trans-1,3-Dichloropropene | 10061-02-6 | 1                    |
| 26. Bromoform                 | 75-25-2    | 1                    |
| 27. 4-Methyl-2-pentanone      | 108-10-1   | 5                    |
| 28. 2-Hexanone                | 591-78-6   | 5                    |
| 29. Tetrachloroethene         | 127-18-4   | 1                    |

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)  
(CONT'D.)

| Volatiles                       | CAS Number | Quantitation Limits         |
|---------------------------------|------------|-----------------------------|
|                                 |            | <u>Water</u><br><u>µg/L</u> |
| 30. 1,1,2,2-Tetrachloroethane   | 79-34-5    | .1                          |
| 31. 1,2-Dibromoethane           | 106-93-4   | 1                           |
| 32. Toluene                     | 108-88-3   | 1                           |
| 33. Chlorobenzene               | 108-90-7   | 1                           |
| 34. Ethylbenzene                | 100-41-4   | 1                           |
| 35. Styrene                     | 100-42-5   | 1                           |
| 36. Xylenes (total)             | 1330-20-7  | 1                           |
| 37. 1,3-Dichlorobenzene         | 541-73-1   | 1                           |
| 38. 1,4-Dichlorobenzene         | 106-46-7   | 1                           |
| 39. 1,2-Dichlorobenzene         | 95-50-1    | 1                           |
| 40. 1,2-Dibromo-3-chloropropane | 96-12-8    | 1                           |

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CROL)  
 (CONT'D.)

| Semivolatiles                   | CAS Number | Quantitation Limits         |
|---------------------------------|------------|-----------------------------|
|                                 |            | <u>Water</u><br><u>µg/L</u> |
| 1. Phenol                       | 108-95-2   | 5                           |
| 2. bis-(2-Chloroethyl)ether     | 111-44-4   | 5                           |
| 3. 2-Chlorophenol               | 95-57-8    | 5                           |
| 4. 2-Methylphenol               | 95-48-7    | 5                           |
| 5. 2,2'-oxybis(1-Chloropropane) | 108-60-1   | 5                           |
| 6. 4-Methylphenol               | 106-44-5   | 5                           |
| 7. N-Nitroso-di-n-propylamine   | 621-64-7   | 5                           |
| 8. Hexachloroethane             | 67-72-1    | 5                           |
| 9. Nitrobenzene                 | 98-95-3    | 5                           |
| 10. Isophorone                  | 78-59-1    | 5                           |
| 11. 2-Nitrophenol               | 88-75-5    | 5                           |
| 12. 2,4-Dimethylphenol          | 105-67-9   | 5                           |
| 13. bis-(2-Chloroethoxy)methane | 11-91-1    | 5                           |
| 14. 2,4-Dichlorophenol          | 120-83-2   | 5                           |
| 15. 1,2,4-Trichlorobenzene      | 120-82-1   | 5                           |
| 16. Naphthalene                 | 91-20-3    | 5                           |
| 17. 4-Chloroaniline             | 106-47-8   | 5                           |
| 18. Hexachlorobutadiene         | 87-68-3    | 5                           |
| 19. 4-Chloro-3-methylphenol     | 59-50-7    | 5                           |
| 20. 2-Methylnaphthalene         | 91-57-6    | 5                           |
| 21. Hexachlorocyclopentadiene   | 77-47-4    | 5                           |
| 22. 2,4,6-Trichlorophenol       | 88-06-2    | 5                           |
| 23. 2,4,5-Trichlorophenol       | 95-95-4    | 20                          |
| 24. 2-Chloronaphthalene         | 91-58-7    | 5                           |
| 25. 2-Nitroaniline              | 88-74-4    | 20                          |
| 26. Dimethylphthalate           | 131-11-3   | 5                           |
| 27. Acenaphthylene              | 208-96-8   | 5                           |
| 28. 2,6-Dinitrotoluene          | 606-20-2   | 5                           |
| 29. 3-Nitroaniline              | 99-09-2    | 20                          |
| 30. Acenaphthene                | 83-32-9    | 5                           |
| 31. 2,4-Dinitrophenol           | 51-28-5    | 20                          |
| 32. 4-Nitrophenol               | 100-02-7   | 20                          |
| 33. Dibenzofuran                | 132-64-9   | 5                           |

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)  
(CONT'D.)

| Semivolatiles                   | CAS Number | Quantitation Limits |
|---------------------------------|------------|---------------------|
|                                 |            | Water<br>µg/L       |
| 34. 2,4-Dinitrotoluene          | 121-14-2   | 5                   |
| 35. Diethylphthalate            | 84-66-2    | 5                   |
| 36. 4-Chlorophenyl-phenylether  | 7005-72-3  | 5                   |
| 37. Fluorene                    | 86-73-7    | 5                   |
| 38. 4-Nitroaniline              | 100-01-6   | 20                  |
| 39. 4,6-Dinitro-2-methylphenol  | 534-52-1   | 20                  |
| 40. N-Nitrosodiphenylamine      | 86-30-6    | 5                   |
| 41. 4-Bromophenyl-phenylether   | 101-55-3   | 5                   |
| 42. Hexachlorobenzene           | 118-74-1   | 5                   |
| 43. Pentachlorophenol           | 87-86-5    | 20                  |
| 44. Phenanthrene                | 85-01-8    | 5                   |
| 45. Anthracene                  | 120-12-7   | 5                   |
| 46. Di-n-butylphthalate         | 84-74-2    | 5                   |
| 47. Fluoranthene                | 206-44-0   | 5                   |
| 48. Pyrene                      | 129-00-0   | 5                   |
| 49. Butylbenzylphthalate        | 85-68-7    | 5                   |
| 50. 3,3'-Dichlorobenzidine      | 91-94-1    | 5                   |
| 51. Benzo(a)anthracene          | 56-55-3    | 5                   |
| 52. Chrysene                    | 218-01-9   | 5                   |
| 53. bis-(2-Ethylhexyl)phthalate | 117-81-7   | 5                   |
| 54. Di-n-octylphthalate         | 117-84-0   | 5                   |
| 55. Benzo(b)fluoranthene        | 205-99-2   | 5                   |
| 56. Benzo(k)fluoranthene        | 207-08-9   | 5                   |
| 57. Benzo(a)pyrene              | 50-32-8    | 5                   |
| 58. Indeno(1,2,3-cd)pyrene      | 193-39-5   | 5                   |
| 59. Dibenz(a,h)anthracene       | 53-70-3    | 5                   |
| 60. Benzo(g,h,i)perylene        | 191-24-2   | 5                   |

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)  
(CONT'D.)

| Pesticides/PCBs        | CAS Number | Quantitation Limits  |
|------------------------|------------|----------------------|
|                        |            | <u>Water</u><br>µg/L |
| 1. alpha-BHC           | 319-84-6   | 0.01                 |
| 2. beta-BHC            | 319-85-7   | 0.01                 |
| 3. delta-BHC           | 319-36-8   | 0.01                 |
| 4. gamma-BHC (Lindane) | 58-89-9    | 0.01                 |
| 5. Heptachlor          | 76-44-8    | 0.01                 |
| 6. Aldrin              | 309-00-2   | 0.01                 |
| 7. Heptachlor epoxide  | 1024-57-3  | 0.01                 |
| 8. Endosulfan I        | 959-98-8   | 0.01                 |
| 9. Dieldrin            | 60-57-1    | 0.02                 |
| 10. 4,4'-DDE           | 72-55-9    | 0.02                 |
| 11. Endrin             | 72-20-8    | 0.02                 |
| 12. Endosulfan II      | 33213-65-9 | 0.02                 |
| 13. 4,4'-DDD           | 72-54-8    | 0.02                 |
| 14. Endosulfan sulfate | 1031-07-8  | 0.02                 |
| 15. 4,4'-DDT           | 50-29-3    | 0.02                 |
| 16. Methoxychlor       | 72-43-5    | 0.10                 |
| 17. Endrin ketone      | 53494-70-5 | 0.02                 |
| 18. Endrin aldehyde    | 7421-36-3  | 0.02                 |
| 19. alpha-Chlordane    | 5103-71-9  | 0.01                 |
| 20. gamma-Chlordane    | 5103-74-2  | 0.01                 |
| 21. Toxaphene          | 8001-35-2  | 1.0                  |
| 22. Aroclor-1016       | 12674-11-2 | 0.20                 |
| 23. Aroclor-1221       | 11104-28-2 | 0.20                 |
| 24. Aroclor-1232       | 11141-16-5 | 0.40                 |
| 25. Aroclor-1242       | 53469-21-9 | 0.20                 |
| 26. Aroclor-1248       | 12672-29-6 | 0.20                 |
| 27. Aroclor-1254       | 11097-69-1 | 0.20                 |
| 28. Aroclor-1260       | 11096-82-5 | 0.20                 |

**TABLE C (Cont.)  
SAS DRINKING WATER  
INORGANIC DETECTION LIMITS**

| PARAMETER | PROCEDURE    | DETECTION<br>LIMIT |
|-----------|--------------|--------------------|
| Aluminum  | ICP          | 100                |
| Antimony  | GFAA         | 5                  |
| Arsenic   | GFAA         | 5                  |
| Barium    | ICP          | 50                 |
| Beryllium | ICP          | 5                  |
| Cadmium   | GFAA         | 0.5                |
| Calcium   | ICP          | 1000               |
| Chromium  | ICP          | 10                 |
| Cobalt    | ICP          | 10                 |
| Copper    | ICP          | 10                 |
| Iron      | ICP          | 100                |
| Lead      | GFAA         | 2                  |
| Magnesium | ICP          | 1000               |
| Manganese | ICP          | 10                 |
| Mercury   | Cold Vapor   | 0.2                |
| Nickel    | ICP          | 20                 |
| Potassium | ICP          | 2000               |
| Selenium  | GFAA         | 2                  |
| Silver    | ICP          | 5                  |
| Sodium    | ICP          | 1000               |
| Thallium  | GFAA         | 2                  |
| Tin       | ICP          | 40                 |
| Vanadium  | ICP          | 10                 |
| Zinc      | ICP          | 20                 |
| Cyanide   | Colorimetric | 10                 |

**Note:** The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See inorganic Routine Analytical Services (RAS) for related CAS #.

ADDENDUM A

ROUTINE ANALYTICAL SERVICES  
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS

Contract Laboratory Program  
Target Compound List  
Quantitation Limits

| COMPOUND                   | CAS #      | SOIL<br>SEDIMENT<br>SLUDGE |          |
|----------------------------|------------|----------------------------|----------|
|                            |            | WATER                      |          |
| Chloromethane              | 74-87-3    | 10 ug/L                    | 10 ug/Kg |
| Bromomethane               | 74-83-9    | 10                         | 10       |
| Vinyl chloride             | 75-01-4    | 10                         | 10       |
| Chloroethane               | 75-00-3    | 10                         | 10       |
| Methylene chloride         | 75-09-2    | 5                          | 5        |
| Acetone                    | 67-64-1    | 10                         | 5        |
| Carbon disulfide           | 75-15-0    | 5                          | 5        |
| 1,1-dichloroethene         | 75-35-4    | 5                          | 5        |
| 1,1-dichloroethane         | 75-34-3    | 5                          | 5        |
| 1,2-dichloroethene (total) | 540-59-0   | 5                          | 5        |
| Chloroform                 | 67-66-3    | 5                          | 5        |
| 1,2-dichloroethane         | 107-06-2   | 5                          | 5        |
| 2-butanone (MEK)           | 78-93-3    | 10                         | 10       |
| 1,1,1-trichloroethane      | 71-55-6    | 5                          | 5        |
| Carbon tetrachloride       | 56-23-5    | 5                          | 5        |
| Vinyl acetate              | 108-05-4   | 10                         | 10       |
| Bromodichloromethane       | 75-27-4    | 5                          | 5        |
| 1,2-dichloropropane        | 78-87-5    | 5                          | 5        |
| cis-1,3-dichloropropene    | 10061-01-5 | 5                          | 5        |
| Trichloroethene            | 79-01-6    | 5                          | 5        |
| Dibromochloromethane       | 124-48-1   | 5                          | 5        |
| 1,1,2-trichloroethane      | 79-00-5    | 5                          | 5        |
| Benzene                    | 71-43-2    | 5                          | 5        |
| Trans-1,3-dichloropropene  | 10061-02-6 | 5                          | 5        |
| Bromoform                  | 75-25-2    | 5                          | 5        |
| 4-Methyl-2-pentanone       | 108-10-1   | 10                         | 10       |
| 2-Hexanone                 | 591-78-6   | 10                         | 10       |
| Tetrachloroethene          | 127-18-4   | 5                          | 5        |
| Tolene                     | 108-88-3   | 5                          | 5        |
| 1,1,2,2-tetrachloroethane  | 79-34-5    | 5                          | 5        |
| Chlorobenzene              | 108-90-7   | 5                          | 5        |
| Ethyl benzene              | 100-41-4   | 5                          | 5        |
| Styrene                    | 100-42-5   | 5                          | 5        |
| Xylenes (total)            | 1330-20-7  | 5                          | 5        |

Table A  
Contract Laboratory Program  
Target Compound List  
Semivolatiles Quantitation Limits

| COMPOUND                     | CAS #     | WATER   | SOIL<br>SEDIMENT<br>SLUDGE |
|------------------------------|-----------|---------|----------------------------|
| Phenol                       | 108-95-2  | 10 ug/L | 330 ug/Kg                  |
| bis(2-Chloroethyl) ether     | 111-44-4  | 10      | 330                        |
| 2-Chlorophenol               | 95-57-8   | 10      | 330                        |
| 1,3-Dichlorobenzene          | 541-73-1  | 10      | 330                        |
| 1,4-Dichlorobenzene          | 106-46-7  | 10      | 330                        |
| Benzyl Alcohol               | 100-51-6  | 10      | 330                        |
| 1,2-Dichlorobenzene          | 95-50-1   | 10      | 330                        |
| 2-Methylphenol               | 95-48-7   | 10      | 330                        |
| bis(2-Chloroisopropyl) ether | 108-60-1  | 10      | 330                        |
| 4-Methylphenol               | 106-44-5  | 10      | 330                        |
| N-Nitroso-di-n-dipropylamine | 621-64-7  | 10      | 330                        |
| Hexachloroethane             | 67-72-1   | 10      | 330                        |
| Nitrobenzene                 | 98-95-3   | 10      | 330                        |
| Isophorone                   | 78-59-1   | 10      | 330                        |
| 2-Nitrophenol                | 88-75-5   | 10      | 330                        |
| 2,4-Dimethylphenol           | 105-67-9  | 10      | 330                        |
| Benzoic Acid                 | 65-85-0   | 50      | 1600                       |
| bis(2-Chloroethoxy) methane  | 111-91-1  | 10      | 330                        |
| 2,4-Dichlorophenol           | 120-83-2  | 10      | 330                        |
| 1,2,4-Trichlorobenzene       | 120-82-1  | 10      | 330                        |
| Naphthalene                  | 91-20-3   | 10      | 330                        |
| 4-Chloroaniline              | 106-47-8  | 10      | 330                        |
| Hexachlorobutadiene          | 87-68-3   | 10      | 300                        |
| 4-Chloro-3-methylphenol      | 59-50-7   | 10      | 330                        |
| 2-Methylnaphthalene          | 91-57-6   | 10      | 330                        |
| Hexachlorocyclopentadiene    | 77-47-4   | 10      | 330                        |
| 2,4,6-Trichlorophenol        | 88-06-2   | 10      | 330                        |
| 2,4,5-Trichlorophenol        | 95-95-4   | 50      | 1600                       |
| 2-Chloronaphthalene          | 91-58-7   | 10      | 330                        |
| 2-Nitroaniline               | 88-74-4   | 50      | 1600                       |
| Dimethylphthalate            | 131-11-3  | 10      | 330                        |
| Acenaphthylene               | 208-96-8  | 10      | 330                        |
| 2,6-Dinitrotoluene           | 606-20-2  | 10      | 330                        |
| 3-Nitroaniline               | 99-09-2   | 50      | 1600                       |
| Acenaphthene                 | 83-32-9   | 10      | 330                        |
| 2,4-Dinitrophenol            | 51-28-5   | 50      | 1600                       |
| 4-Nitrophenol                | 100-02-7  | 50      | 1600                       |
| Dibenzofuran                 | 132-64-9  | 10      | 330                        |
| 2,4-Dinitrotoluene           | 121-14-2  | 10      | 330                        |
| Diethylphthalate             | 84-66-2   | 10      | 330                        |
| 4-Chlorophenyl-phenyl ether  | 7005-72-3 | 10      | 330                        |

Table A  
Contract Laboratory Program  
Target Compound List  
Semivolatiles Quantitation Limits

| COMPOUND                   | CAS #    | WATER   | SOIL               |
|----------------------------|----------|---------|--------------------|
|                            |          |         | SLUDGE<br>SEDIMENT |
| Fluorene                   | 86-73-7  | 10 ug/L | 330 ug/Kg          |
| 4-Nitroaniline             | 100-01-6 | 50      | 1600               |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 50      | 1600               |
| N-nitrosodiphenylamine     | 86-30-6  | 10      | 330                |
| 4-Bromophenyl-phenylether  | 101-55-3 | 10      | 330                |
| Hexachlorobenzene          | 118-74-1 | 10      | 330                |
| Pentachlorophenol          | 87-86-5  | 50      | 1600               |
| Phenanthrene               | 85-01-8  | 10      | 330                |
| Anthracene                 | 120-12-7 | 10      | 330                |
| Di-n-butylphthalate        | 84-74-2  | 10      | 330                |
| Fluoranthene               | 206-44-0 | 10      | 330                |
| Pyrene                     | 129-00-0 | 10      | 330                |
| Butylbenzylphthalate       | 85-68-7  | 10      | 330                |
| 3,3'-Dichlorobenzidine     | 91-94-1  | 20      | 660                |
| Benzo(a)anthracene         | 56-55-3  | 10      | 330                |
| Chrysene                   | 218-01-9 | 10      | 330                |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 10      | 330                |
| Di-n-octylphthalate        | 117-84-0 | 10      | 330                |
| Benzo(b)fluoranthene       | 205-99-2 | 10      | 330                |
| Benzo(k)fluoranthene       | 207-08-9 | 10      | 330                |
| Benzo(a)pyrene             | 50-32-8  | 10      | 330                |
| Indeno(1,2,3-cd)pyrene     | 193-39-5 | 10      | 330                |
| Dibenz(a,h)anthracene      | 53-70-3  | 10      | 330                |
| Benzo(g,h,i)perylene       | 191-24-2 | 10      | 330                |

Table A  
Contract Laboratory Program  
Target Compound List  
Pesticide and PCB Quantitation Limits

| COMPOUND               | CAS #      | WATER     | SOIL               |
|------------------------|------------|-----------|--------------------|
|                        |            |           | SEDIMENT<br>SLUDGE |
| alpha-BHC              | 319-84-6   | 0.05 ug/L | 8 ug/Kg            |
| beta-BHC               | 319-85-7   | 0.05      | 8                  |
| delta-BHC              | 319-86-8   | 0.05      | 8                  |
| gamma-BHC (Lindane)    | 58-89-9    | 0.05      | 8                  |
| Heptachlor             | 76-44-8    | 0.05      | 8                  |
| Aldrin                 | 309-00-2   | 0.05      | 8                  |
| Heptachlor epoxide     | 1024-57-3  | 0.05      | 8                  |
| Endosulfan I           | 959-98-8   | 0.05      | 8                  |
| Dieldrin               | 60-57-1    | 0.10      | 16                 |
| 4,4'-DDE               | 72-55-9    | 0.10      | 16                 |
| Endrin                 | 72-20-8    | 0.10      | 16                 |
| Endosulfan II          | 33213-65-9 | 0.10      | 16                 |
| 4,4'-DDD               | 72-54-8    | 0.10      | 16                 |
| Endosulfan sulfate     | 1031-07-8  | 0.10      | 16                 |
| 4,4'-DDT               | 50-29-3    | 0.10      | 16                 |
| Methoxychlor (Mariate) | 72-43-5    | 0.5       | 80                 |
| Endrin ketone          | 53494-70-5 | 0.10      | 16                 |
| alpha-Chlordane        | 5103-71-9  | 0.5       | 80                 |
| gamma-chlordane        | 5103-74-2  | 0.5       | 80                 |
| Toxaphene              | 8001-35-2  | 1.0       | 160                |
| AROCLOR-1016           | 12674-11-2 | 0.5       | 80                 |
| AROCLOR-1221           | 11104-28-2 | 0.5       | 80                 |
| AROCLOR-1232           | 11141-16-5 | 0.5       | 80                 |
| AROCLOR-1242           | 53469-21-9 | 0.5       | 80                 |
| AROCLOR-1248           | 12672-29-6 | 0.5       | 80                 |
| AROCLOR-1254           | 11097-69-1 | 1.0       | 160                |
| AROCLOR-1260           | 11096-82-5 | 1.0       | 160                |

Table A (Cont.)

CONTRACT LABORATORY PROGRAM  
 TARGET ANALYTE LIST (TAL)  
 INORGANIC DETECTION LIMITS

| Compound  | Procedure  | Detection Limits |                                 |
|-----------|------------|------------------|---------------------------------|
|           |            | Water<br>(µg/L)  | Soil Sediment<br>Sludge (mg/kg) |
| aluminum  | ICP        | 200              | 40                              |
| antimony  | furnace    | 60               | 2.4                             |
| arsenic   | furnace    | 10               | 2                               |
| barium    | ICP        | 200              | 40                              |
| beryllium | ICP        | 5                | 1                               |
| cadmium   | ICP        | 5                | 1                               |
| calcium   | ICP        | 5,000            | 1,000                           |
| chromium  | ICP        | 10               | 2                               |
| cobalt    | ICP        | 50               | 10                              |
| copper    | ICP        | 25               | 5                               |
| iron      | ICP        | 100              | 20                              |
| lead      | furnace    | 5                | 1                               |
| magnesium | ICP        | 5,000            | 1,000                           |
| manganese | ICP        | 15               | 3                               |
| mercury   | cold vapor | 0.2              | 0.008                           |
| nickel    | ICP        | 40               | 8                               |
| potassium | ICP        | 5,000            | 1,000                           |
| selenium  | furnace    | 5                | 1                               |
| silver    | ICP        | 10               | 2                               |
| sodium    | ICP        | 5,000            | 1,000                           |
| thallium  | furnace    | 10               | 2                               |
| tin       | ICP        | 40               | 8                               |
| vanadium  | ICP        | 50               | 10                              |
| zinc --   | ICP        | 20               | 4                               |
| cyanide   | color      | 10               | 2                               |

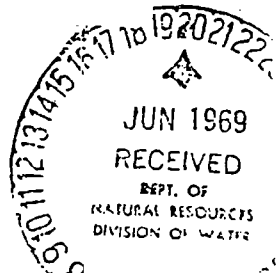
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APPENDIX E

WELL LOGS OF THE AREA OF THE SITE

DIVISION OF WATER  
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA  
STATE OFFICE BUILDING  
INDIANAPOLIS, INDIANA 46209

WATER WELL RECORD



# Non-Responsive

# Non-Responsive

S-47

LAYNE-NORTHERN COMPANY

Incorporated

MISHAWAKA, INDIANA

RW2

☐ TEST

☐ PERMANENT

Job No. 2

# Non-Responsive

# Non-Responsive

Non-Responsive

545

DIVISION OF WATER RESOURCES  
INDIANA DEPARTMENT OF CONSERVATION  
311 WEST WASHINGTON STREET  
INDIANAPOLIS, INDIANA

WATER WELL RECORD



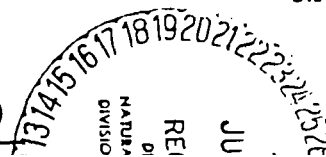
# Non-Responsive

# Non-Responsive

DIVISION OF WATER  
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA  
STATE OFFICE BUILDING  
INDIANAPOLIS, INDIANA 46204

State Form 35680

Telephone 317-232-4160

WATER WELL RECORD

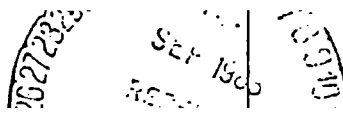
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# Non-Responsive



# WATER WELL RECORD

State Form 35660R



Mail completed record within 30 days to:

DIVISION OF WATER

INDIANA DEPARTMENT OF NATURAL RESOURCES

605 STATE OFFICE BUILDING

RW5

# Non-Responsive

(Well driller does not fill out)

County

Twp.

Rge.

Sec.

# Non-Responsive

DIVISION OF WATER  
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA  
STATE OFFICE BUILDING  
INDIANAPOLIS, INDIANA 46204  
Telephone 633-5267 Area Code 317



WATER WELL RECORD

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# Non-Responsive



**NORTHERN COMPANY**

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RW7

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☒ PERMANENT

Job No. C-21315

# Non-Responsive

Non-Responsive

# Non-Responsive